The Builder.

Vol. XXXV. No. 1809. SATURDAY, AUGUST 4, 1877.

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The College of Indian Engineers.

LAST year about this time we gave a somewhat long account of the Royal Indian Engineering College at Coopers Hill; we explained the necessity of its existence, congratulated the Government upon its institution, and enlarged upon points connected with it which, in our opinion, augured well for its success as a preliminary training school of future builders throughout India. As we then said, a stiff competitive examination has to be passed by every youth desirous of entering the College,—an examination conducted by the Civil Service Commissioners, and comprising exercises in English composition, in history and literature, in arithmetic and mensuration, in Euclid, algebra, and trigonometry, in statics and dynamics, in pure mathematics, in mixed mathematics, in Latin and Greek, in French and German, in chemistry, in heat and light, in electricity and magnetism, in geology and physical geography, in freehand drawing, and in geometrical drawing. The luckier youths, by no means prodigies of intellectual power, who are scientifically crammed by professional experts with the answers likely to turn out successful to the probable questions of the examiners, then submit to a course of study at Coopers Hill, and—three years after passing the preliminary Civil Service examination,—are on their way to India, nine-tenths of them as Assistant Engineers (second grade), with a salary of 420*l.* per annum, and one-tenth as Assistant Engineers (third grade), with a salary of 300*l.* per annum. Now in these days an income of 400*l.* in Calcutta goes much further than one of 200*l.* in London, and an income of 300*l.* in the Mofussil is certainly better than one of 200*l.* in an English county town.

Every year a public day is celebrated at the College, and last Friday, the 27th ult., the Marquis of Salisbury distributed the usual prizes, and made the customary speech after the president, Colonel Chesney, R.E., had delivered his annual report. The Indian Secretary of State was in the best spirits and temper; and as he had to announce unpleasant facts,—that the number of students must be reduced, and that a famine in the south of India was imminent,—he probably preferred to look at everything connected with the College and the future officials of the Public Works Department in the rosy tints in which Colonel Chesney paints his pictures, and the outside examiners write their reports. He even announced that the Government is so satisfied with the results of six years at the Indian Engineering College that at no distant date a similar establishment will be founded for the training of recruits for the Indian Civil Service. Lord Salisbury mentioned the principal advantage of such home colleges: in them young men who in after years will be called upon to co-operate with, rule over, or obey each other in the administration of an unwieldy empire are brought up together; some contract early friendships, all get to know each other, and all are inevitably seized with that spirit of association which is the foundation of good government.

Although Lord Salisbury did not say so, there is a little humbug in every new and successful thing; and there is the inevitable quantum of humbug in the competitive examinations both of the Civil Service Commissioners and of the College of Indian Engineers. The object of the former is to pass as many candidates as the State requires; the object of the latter is to pass all the candidates if it can only be decently done. Three examinations which are held at the the College complete a student's course,—one at the end of the first, another of the second, year, and then the final examination after he has passed the required time in the office or workshop of a civil or a mechanical engineer engaged in professional practice. This undoubtedly sounds very well, but really the two years' study at the College is in all only eighteen months, and the "practical course" supposed to be passed in a working office, and to endure a whole year, is not more than a five months' ordeal. What with the examinations, the boating, cricketing, volunteering, billiards, and a host of extra things which we admit ought to be part of a gentleman's education, not very much time is left in the nine months for hard and continued study. We were not surprised, therefore, to hear that the examiner in geology was not entirely satisfied with the answers made by some of the students to the paper he set them; but we are surprised to know that Lord Salisbury should think the students have time to take up a collateral study,—that they must tackle mineralogy if they are ever to complete his lordship's satisfaction, and render themselves perfect as Indian engineers. We should have been better pleased to hear a suggestion that no student be gazetted to even 300*l.* per annum unless he can draw as well as a London architect's "improver," who is glad to receive even 1*l.* per week; we should have been much better pleased to hear his lordship remind the staff of the College that the Department of Indian Public Works wants men who have had a three years' training in the science and art of engineering, and in the rudiments of architecture,—not youthful *dilettanti* who have learnt many things that an engineer may want, and who have avoided almost everything that he will surely and immediately require. Means of knowing what the annual examiners in engineering and architecture think of the proficiency,—not of a few,—but of the general body of students, are abundant; we have even received communications from passed students of the college, and we do not hesitate to say that the majority of these young men whom the State sends with a free passage to India are not worth, as engineers or architects, the salary which it is agreed to pay them. Of course,—for did not Vitruvius quote the Grecian precedent?—an engineer or an architect ought to know everything it is possible to know, but the rudiments of that everything cannot be acquired in twenty-three months. We therefore urge, if, as is not unlikely, a reduction of the College staff is imminent, that the educational forces should be concentrated upon construction, both engineering and architectural, upon surveying both of buildings and land,—upon, in fine, those practical details which in England are divided between surveyors, architects, and engineers, but which in India are combined in one individual. "Mathematics" and "Applied mathematics" are admirable as mental exercise; but has not that exercise been accomplished by the preliminary Civil Service examination which every student passes before admittance to Coopers Hill? The glowing report of the examiner in mathematics,—his reports grow in glowing effects,—prove that too much time, comparatively considered, is devoted to that study, for none of the other reports seem ever to approach his in absolute intensity of satisfaction.

The announcement by Colonel Chesney, of the nature of some of the reports received by him from professional gentlemen, with whom four of the students had been placed during their final "year" of training, assists the impression we have formed that the College of Indian Engineers, admirable in principle and object, is attempting too much; and, obviously, that it is wasting its great advantages and powers. "The first thing I do," said a civil engineer to us, "when a student of Coopers Hill is sent to me, is to make him forget all that he has learnt at the College." Allowing the usual grain of professional jealousy, much may be read between the lines of that speech, especially when we remember the opportunities which abound under that civil engineer's direction, and which are offered to a student, to learn the rudiments of practical engineering. As for our own branch of the Indian Engineer's duties, we do not hesitate to affirm that the study of architecture is treated at Coopers Hill with suicidal indifference. We do not wish to engage these budding engineers in the battles of style or even in the details of the "five orders"; but we do wish to see all and every one there expert in the principle of planning,—in the technical method of delineating doors windows, stairs, floors, roofs, &c., upon paper, even to a small scale,—before they are launched into practice and set to design the details of bridges and buildings away from all drawings

books, and technical example or assistance. We make these remarks in no spirit of opposition, and refer our readers to the account we gave last year for our judgment of what the College is intended to be and to do. We simply warn the authorities that the opinions of outsiders, who believe in the utility of the institution, are not so rose-coloured or favourable as the general annual jubilation would lead people to suppose. A little less pretentiousness of display, and a little more devotion to the particular object for which the College was founded, may be profitably advocated by the powers that be. We repeat that in different parts of England and Scotland there are trained architectural assistants, whose stipends vary from 150*l.* to 200*l.* per annum, and who design and superintend buildings admirably well in the name of their employers. They have had, of course, many years of practice and experience. The knowledge of this fact makes us doubt if the Government are aware how long a time it takes to make even a London architectural assistant, and how little often he can earn when he is made. But, by the outlay of a few hundred pounds, a young gentleman of mediocre ability may now secure a certain and increasing income in India, with the additional advantage of receiving, as a privileged "engineer," more than enough to live on while he is attempting to learn his profession *there*.

The tearful pathos which marked the closing sentences of Lord Salisbury's speech prepared the visitors less for a sight of the students' drawings than for admittance to their hall. A disquisition upon the horrors of famine, and delivered after midday, was suggestive of appetite. Not a long time elapsed between the close of the Secretary of State's remarks and the luncheon, which was to most of the guests a disagreeable scramble. It is of course hardly gracious to look a gift-horse in the mouth; but really a public entertainment provided out of the revenues of India ought not to take the character of a subscription ordinary. The guests got seats when and where they could; ladies and gentlemen were absolutely jammed together upon the narrowest of chairs wedged in beneath the tables. There was little if any respect for persons; Sir Henry Norman, Mr. Leonard, and others of equal note, were left to find the best places they could, and many distinguished people were elbowed in the general squeeze. The waiters were helpless, the salads were old and not dressed, and the wine had to be asked for. The custom in India to leave all the details of table and bed accommodation to the care of several servants acting under the orders of a butler is generally successful, and, though expensive, is habitually followed; but in England the eye of the master is indispensable. The rough-and-ready manners of the bungalow among hosts and guests, all intimate with each other, will not do in England, especially in mixed society. The gentle gift of courtesy, both in the reception and entertainment of specially-invited guests, who, at some trouble and expense to themselves, are carried to Egham by "special train," would soften the criticism and smooth the feelings of many who, last Friday, as at other similar feasts and triumphs, went away physically empty and morally disappointed.

WALLACE'S "RUSSIA."

We owe a great deal to any writer who gives us careful and trustworthy information, such as will take us a step further in understanding the inner life, the social, political, and commercial conditions of another nation. The advantages from the publication of such information are, no doubt, in many cases equally shared between those who read the book and those about whom it is written. Better mutual understanding between nations differing in language and habits is the most important condition in the promotion of peace and of mutual helpfulness in the great ends of life. And the value of new information about Russia arises not merely from the prominent part that country is at present playing in European affairs, but in general from the difficulty of understanding or getting at the real facts about a people spread over so vast an extent of country, and in some respects so much removed from the sympathies of Western Europe, by its more primitive stage of civilisation as well as by geographical distance. Though St. Petersburg is now much visited by Englishmen, and has fulfilled to a remarkable extent the far-sighted intention of its imperial founder, that it should be "a window from which Russia could look upon Europe," so that the educated classes of the nation are now fully abreast of the times, this is certainly not true of the middle and lower classes, who probably know almost as little about Western Europe, and its social and political ideas, as Western Europe knows about them. Mr. Wallace's book is hardly likely to penetrate at present to the notice of many of those of whom it principally treats, and show them to themselves as others see them, but it is certain to have been or to be read by educated Russians, and no one in England who has any interest, theoretic or practical, in progress in "foreign parts," can afford to overlook it.

Mr. Wallace's book * differs greatly from a large number of books of its class, more or less interesting in their way, in that it is not the mere record of observations taken during a few months' residence or a tour in a country,—observations which are so often unavoidably superficial or misleading. In this case the author has resided for six years in the country of which he writes, moving from place to place, and visiting districts of special interest with a special object, and taking means to procure reliable information. And to this thoroughness of investigation is added a breadth of view which seems always to deal with each isolated experience in relation to the whole subject of the present state and future prospects of the country, and of its position in regard to European progress generally, and which renders the book one of the most valuable and suggestive of the publications of the day, besides forming an historical record of more than temporary interest.

It happens that no inconsiderable portion of Mr. Wallace's investigations touch upon, even when not directly dealing with, subjects which come within the special interests of ourselves and our readers, and which we need make no excuse for considering a little more in detail. Little space, comparatively, is expended upon the great cities which are known to most English travellers: the object being rather to give information as to the state of the country at large, and especially of portions of it which are usually unvisited by and little known to other Europeans. And in the first place we may refer to the two exceedingly useful maps, one prefixed to each volume, the first showing areas of comparative density of population, and the second "zones of vegetation," as the author entitles it, though we might perhaps rather term it "zones of agricultural condition." The two maps are of identical size and scale, so that one can be at once applied to the other. The first map is distinguished by colouring into regions containing a population of above fifty inhabitants to the square verst,† diminishing in gradations to "40 to 50" to the same area, "30 to 40," and so on down to 2½ to the square verst, the proportion below that being left blank, as practically uninhabited, the approximate population of the towns being also distinguished on a simple system of indication. We thus see at a glance that the most thickly-populated portion of the country is in a central band extending in a generally north-easterly curve from just above Kishinef to Moscow. Only a small proportion of this, however, west of the Dnieper (except the neighbourhoods adjoining Moscow and St. Petersburg), reaches the highest proportion of above fifty to the verst; Poland alone, more densely populated than any part of Russia, making a deep brown tract on the west; but it is, of course, impossible to consider Poland as Russia when we regard the country in a social and economic point of view, whatever may be said about it politically. Of the great tracts to the north-east and south-east, of which Archangel and Astrakhan are respectively the main seaports, the first is blank, the second comes under the lowest division of the population schedule, representing 2½ to 10 to the verst. Comparing this with the agricultural zone map, we find the northern or Archangel region is nearly coincident here with the "forest zone," and that a considerable portion of the belt of greatest population coincides as nearly as possible with that marked as "Southern agricultural zone," and further described as the site of the practice of the "three-field system of agriculture." The lower or south-east tract of thinly inhabited country coincides with the "Steppe system of agriculture," and (more south-easterly and adjoining the shores of the Caspian) the pastoral region," where life goes on probably very much as it has gone on since a time before the Christian era.

We thus see that the most populous part of the country is cultivated on a plan called the "three-field system," and it may be interesting to turn to the chapters devoted to that portion, and see what the system of life is in this most populous district of Russia. Now the typical Russian village would appear to be, from Mr. Wallace's account, a somewhat remarkable institution, a kind of *imperium in imperio*, with its own constitutional (though unwritten) laws and government. The Communal principle, indeed, seems for some reason to be deeply rooted in the habits and preferences of people of this (as we generally think) eminently autocratically-governed country. In speaking of the peasant family of the old type, the author describes how the various members of a family, even after their several marriages, continue not only to live as members of the original household, but that all work for the household, and all that each earns is expected to go into the family treasury. And the Russian village is something very like a family combination of this kind on a larger scale. The whole of the arable land and pasturage in connexion with the village is its common property. In both the single family and the communal village there is a certain amount of common responsibility; in the one case for all the debts, and in the other for all the taxes and communal obligations: and both are protected to a certain extent against the ordinary legal consequences of insolvency, for the family cannot be deprived of its house or necessary agricultural implements, and the commune cannot be deprived of its land, by importunate creditors. And the arable land belonging to the village is divided, on what has been referred to as the "three-field system," into three large fields, each of which is cut up into long narrow strips. "The first field is reserved for the winter grain,—that is to say, rye, which forms, in the shape of black bread, the principal food of the peasantry; in the second are raised oats for the horses, and buckwheat, which is largely used for food; the third lies fallow, and is used in the summer as pasturage for the cattle." Between these three main divisions of the land a regular though simple system of rotation of crops is kept up, and each family has one or more of the strips or subdivisions to work upon, as allotted according to circumstances. The village is governed by a village Elder, who is elected from time to time, but who is controlled by a kind of parliament, in the shape of Heads of Households. The result of this sort of organisation is thus sketched by Mr. Wallace:—

"The villagers are bound together by ties quite unknown to the English rural population. A family living in an English village has little reason to take an interest in the affairs of its neighbours. . . . . But amongst the families composing a Russian village such a state of isolation is impossible. The heads of households must often meet together and consult in the village assembly, and their daily occupations must be influenced by the communal decrees. They cannot begin to mow the hay or plough the fallow field until the village assembly has passed a resolution on the subject. If a peasant becomes a drunkard, or takes some equally efficient means to become insolvent, every family in the village has a right to complain, not merely in the interests of public morality, but from selfish motives, because all the families are collectively responsible for his taxes. For the same reason no peasant can permanently leave the village without the consent of the Commune, and this consent will not be granted until the applicant gives satisfactory security for the fulfilment of all his actual and future liabilities. If a peasant wishes to go away for a short time, in order to work elsewhere, he must obtain a written permission, which serves him as a passport; and he may be recalled at any moment by a communal decree. In reality, he is rarely recalled so long as he sends home regularly the full amount of his taxes,—including the dues which he has to pay for the temporary passport,—but sometimes the Commune uses the power of recall for the purpose of extracting money from the absent member. If it becomes known, for instance, that an absent member receives a good salary in one of the towns, he may one day receive a formal order to return at once to his native village, and be informed at the same time, unofficially, that his presence will be dispensed with if he will send to the Commune a certain amount of money. The money thus sent is generally used by the Commune for convivial purposes. Whether this method of extortion is frequently used by the Communes I cannot confidently say, but I suspect that it is by no means rare, for one or two cases have accidentally come under my own observation, and I know that the police of St. Petersburg have been recently ordered not to send back any peasants to their native villages until some proof is given that the ground of recall is not a mere pretext.

In order to understand the Russian village system, the reader must bear in mind these two important facts: the arable land and the pasturage belong not to the individual houses but to the Communes; and all the households are, collectively and individually, responsible for the entire sum which the Commune has to pay annually into the Imperial treasury."

Mr. Wallace's laudably impartial statement of the working of the village communal system renders it at least evident that human nature is the same in Russia as in England, and that com-

* "Russia." By D. Mackenzie Wallace, M.A., member of the Imperial Russian Geographical Society. Third edition. Cassell, Petter, & Galpin. London, Paris, and New York. 1877.

† A verst is nearly three-quarters of an English mile, lineal measure.

bination is subject to abuse there as here. But, putting this aside, it is worth note that Mr. Wallace found the most intelligent of educated Russians strongly under the opinion that this village system presented a practical solution of many difficult social problems, which in the West were for the present unsolved. He listened to discourses on the evil effects of centralisation among Western nations, and in England especially. The natural increase of the population, he was told, together with the expropriation of the small landholders by the great landed proprietors, had created an ever-increasing proletariat, a mass of persons without property of any kind, or any stake in existing institutions. "Part of these gain a miserable pittance as agricultural labourers, and live in a condition infinitely worse than serfage. The others have been for ever uprooted from the soil, and have collected in the large towns, where they earn an uncertain living in industrial occupations, or swell the ranks of the criminal classes. In England you have no longer a peasantry in the proper sense of the term, and unless some radical measures be soon adopted, you will never be able to create such a class, for men who have been long exposed to the unwholesome influences of town life are physically and morally incapable of becoming agriculturists." Such is the sentence passed upon us by Russian economists.

* "Runs not this speech like iron through your blood?" one might say to the English legislator in social and economic matters. That there is a real element of social stability in the existence of institutions thus bound up with the soil seems probable enough. On the other hand, there may be too much of stability. As a matter of fact, it seems to be admitted that the village commune system is unfavourable to improvements in farming, in so far as it seems to foster a conservative feeling in regard to modes of operation, though Mr. Wallace seems to think there would be no serious obstacle of this kind if the Russian peasantry were once brought to entertain the idea of scientific cultivation, which has hardly entered their heads as yet. The mixture of what we should term conservative and radical feeling seems very singular, when we contemplate these specimens of local democracy in the midst of an autocratic country; and not the least singular incident is that voting by ballot, for the election of the Head of the Village and the Committee of Householders, was ordered at one time by the Imperial Government, and greatly objected to by these rural democracies, who called it "playing at marbles."

More specially interesting to us, perhaps, is the account given of the workmen's guilds, as we should call them—the societies of workmen denominated "*Artéls*." These remind one, at first, of our trade unions, but are not established with quite the same end; not for the sake of organised resistance to the terms of employers, but apparently with the simple view of mutual assistance and companionship. They were, in their original form, Mr. Wallace tells us, itinerant associations of workmen, who, during the summer, lived together, fed together, worked together, and on the termination of each bit of work divided amongst themselves the profits. Capital, however, has had its influence on this primitive and brotherly institution, and instead of forming themselves into a temporary association, the workmen now generally make an engagement with a contractor who has a little capital, and receive from him fixed monthly wages. According to this arrangement the risks are less and the wages smaller, and if any exceptional profit occurs it goes into the pocket of the contractor, in compensation for the exceptional losses which he may have to bear. The manner in which the artél system is further developed in some of the large towns, and its results, are told in a paragraph sufficiently significant to be worth quotation:—

"In some of the larger towns there are artéls of a much more complex kind,—permanent associations, possessing a large capital, *and pecuniarily responsible for the acts of the individual members*. Of these, by far the most celebrated is that of the Bank Porters. These men have unlimited opportunities of stealing, and are often entrusted with the guarding or transporting of enormous sums; but the banker has no cause for anxiety, because he knows that if any defalcations occur they will be made good to him by the artél. Such accidents, however, rarely if ever happen, and the fact is by no means so extraordinary as most people suppose. The artél, being responsible for the individuals of which it is composed, is very careful in admitting new members, and a man when admitted is closely watched, not only by the regularly-constituted office-bearers, but also by all his fellow members who have an opportunity of observing him. If he begins to spend money too freely or to neglect his duties, though his employer may know nothing of the fact, suspicions are at once aroused among his fellow members, and an investigation ensues,—ending in summary expulsion if the suspicions prove to have been well founded. Mutual responsibility, in short, creates naturally a very effective system of mutual supervision. Might not some of our employers of labour, who complain loudly of the carelessness and dishonesty of their servants, make some practical use of this principle?"

This is certainly an unusual and eminently healthy and praiseworthy piece of social organisation. In this country, unhappily, where combinations are formed in the ranks of those who are labourers for or servants to others, the object is not to see that the whole body do their duty honourably, so much as to give mutual assistance in evading duties and getting the better of employers. Some classes in England have a lesson to learn from the Russian Porters' "artél."

We do not find any special remark in Mr. Wallace's pages in regard to the nature or construction of the dwellings in the normal Russian village. Only incidentally, in his chapter on a visit to the pastoral or nomadic tribes of the Steppe (in southern Russia), he observes that, as they progressed, "the ordinary wooden houses, with their high sloping roofs, gradually gave place to flat-roofed huts, built of a peculiar kind of unburnt bricks, composed of mud and straw." The first aspect of the Tartar village (if it could be so called) must have been really curious. Our traveller, after leaving a village of the ordinary type, had fallen asleep in the "tarantass" (a kind of wheeled conveyance of the land), when he was wakened by a stoppage, heard a dog barking furiously, and saw no village, but a wide, open space, and a group of haystacks, and was aware of two very wild-looking figures, in long cloaks, with big sticks, talking in an unknown tongue. He thought he had been entrapped, but, on the moon shining out, the supposed haystacks made themselves out as tents. The two figures with long sticks, "whom I had suspected of being brigands, were peaceable shepherds, dressed in the ordinary Oriental khalát, and tending their sheep, which were grazing beside them. Instead of being in an empty hayfield, as I had imagined, we had before us a regular Tartar *Aoul*, such as I had often read about. For a moment I felt astonished and bewildered. It seemed to me that I had fallen asleep in Europe and awoke in Asia."

The tents turned out to be circular, "cupola-shaped" erections, composed of a framework of light wooden rods covered with thick felt, and about 12 ft. in diameter. As to their inhabitants, the author's cautious judgment on them after further acquaintance is that they are "not so inhuman as they look," but he mentions some details as to cuisine and other matters, the publication of which will probably tend to prevent these good people from being at all overrun with visitors from the West. A curious contrast seems to be afforded by the establishment of some of the foreign settlers on the Steppe, among whom are a good many small colonies of "Mennonites,"—the religious distinctive name of a sect of people originally German, or rather Dutch, who have brought their national habits of frugality and tidiness with them to their settlements among the nomadic Tartars. These semi-German colonists art at great pains to cultivate trees, which do not seem to come to much under the adverse influence of climate and soil, but their houses "are large and well arranged, and kept in such thoroughly good repair that they appear to be always newly built. . . . . Adjoining the house are a stable and byre, which would not disgrace a model farm in Germany or England. In front is a spacious courtyard, which has the appearance of being swept several times a day," &c. The contrast between such abodes and the Tartar tents, in the same region and under the same natural conditions, is a curious example of the illustration of differences of race to be seen in the characteristics of the dwelling-house. The same sort of connexion between the habitation and its owner is brought out in the graphic sketch of "a proprietor of the modern school" (in chapter xvi.). As we approach his house we at once perceive that he differs from the majority of his neighbours. The gate is painted, and moves easily on its hinges, the fence is in good repair. "The house is of wood, and not large, but it has some architectural pretensions in the form of a great pseudo-Doric wooden portico that covers three-fourths of the façade." Here, as in every part of the world, one of the first signs of civilisation seems to be the attempt, in some way or other, to engraft Greek or Roman architecture on the dwelling. The Classic style, if it is really becoming obsolete, at all events seems to die hard.

In the more detailed remarks which we find on the aspect of Russian towns, in the chapter describing the author's experience of a sojourn in Novgorod, the conclusions are not favourable. Those who want to enjoy the illusions of stage decorations, observes Mr. Wallace, should never go behind the scenes; and the same is true of a Russian town: however picturesque outside, inside they are little more than villages in disguise, and a walk through them "proves satisfactorily that irregularity, even when combined with squalor, is not necessarily picturesque. . . . . The general impression is that most of the burghers have come from the country, and have brought their country houses with them." The houses are generally one-storied, and seem indifferent about fronting to the street; the few shops seem to have no custom; horses and cows graze in the great square; the streets are either unlighted, or supplied with a few oil-lamps; the more cautious citizens arming themselves with lanterns. Even in Moscow an honourable town councillor a few years ago opposed the introduction of street-lighting with gas, maintaining that those who chose to go out at night should carry their lamps with them. In all this we recognise the early stage of a young civilisation, such as our own country has passed through, and the description of which reminds one in some of its details of what used to be told of London and Edinburgh at no very greatly removed period of history. This description does not apply to St. Petersburg and Odessa (as, indeed, every one knows in regard to the first-named city), which Mr. Wallace, however, considers to have a distinctly foreign air. Moscow is still in essentials a genuine Russian town; and there, as in other such towns, there is a semi-rustic air, "or at least the appearance of those retired suburbs of a large city which are still free from the jurisdiction of the municipal authorities." The scarcity of towns is also remarkable. Defining a town as a place with at least 10,000 inhabitants, there are in European Russia (excluding Finland, the Baltic provinces, and Poland), only 127 towns, and of these only twenty-five contain more than 25,000, and only eleven more than 50,000 inhabitants.

Two chapters are devoted to St. Petersburg and to Moscow respectively; very picturesquely written, and which bring out in effective contrast the differing character of the two cities. St. Petersburg Mr. Wallace compares to Berlin. "Both are built on perfectly level ground; both have wide, regularly-arranged, badly-paved streets; in both there is a general look of stiffness and symmetry, which suggests military discipline and German bureaucracy." The great distinction is, that the Spree hardly deserves the name of a "river," with which geographers have dignified it, whereas the river at St. Petersburg is magnificent; and a general impression of size and scale pervades the place. "Even the private houses are built in enormous blocks, many of them containing more than a score of separate apartments": a statement we do not quite understand; probably by "separate apartments" the author means separate dwellings, as a house with twenty rooms would hardly be "enormous." "Every house has a porter, who is servant of the proprietor, and at the same time a police agent. He has to sweep, and in summer to water, the street in front of the house, and to see that all the inmates observe scrupulously the passport regulations." These men act as night-watchmen, and the author notes as a brilliant example of the Russian capacity for resisting extreme cold, that they will lie down and go to sleep in a night when the thermometer is 30° below zero, and yet "are rarely if ever frozen to death." In Moscow all is different, and a single stroll will convince the visitor, even if he knows nothing of Russian history, that the city is not, like its rival, the artificial creation of a far-seeing, self-willed autocrat; but a natural product which has grown up slowly, and been modified according to the changing wants of the population. The paving of the streets, even the most modernised ones, is "execrably Asiatic," and there is nothing that, by any possibility, could be termed "street architecture." The general description of the town is, in great measure, an amplification of what has been already quoted as to the characteristics of the pure Russian town. It may be noticed that Mr. Wallace cruelly calls in question the "gilded domes" which travellers are so fond of describing, and affirms that very few of them are gilt, the great majority of them being painted green, like the roofs of the houses. The backwardness of Moscow in civilisation seems to be moral as well as material, since it

boasted for some time of a set or association of "Slavo-phils," whose avowed mission was to resist the encroachment of European ideas and improvements.

The state of railways in a rising country is always an interesting point, and no bad test of progress, and therefore we just advert to what Mr. Wallace has to tell us on this subject, the first touched upon in his opening chapter. Russian railway-carriages are much better than ours, and in winter are kept warm by small iron stoves, and double windows and doors. The speed is slow, however, varying from fifteen to thirty miles an hour; but in Russia time is *not* money; if it were, Mr. Wallace drily observes, nearly all the subjects of the Tsar * would have always a large stock of ready money in hand, and would have often great difficulty in spending it. A singular peculiarity of Russian railways is that they seem to avoid the towns; and even on arriving at the terminus you may find yourself set down at a station which bears indeed the name of the town at which you wished to arrive, but which is situated in the middle of fields, while the town itself is far away. The only explanation Mr. Wallace can give is that the arrangement is governed by economic reasons, land being naturally dearer near to the towns. But in the case of the St. Petersburg and Moscow Railway it is said that the straight course which takes the traveller for fifteen hours through forest and morass, with scarcely the sight of a human habitation, is due to nothing less than the will of the Emperor Nicholas; and that the "Tsar," hearing that those entrusted with the work were too much influenced by personal considerations, when the Minister of Ways and Means laid the map before him to explain the route, took up a ruler and drew a straight line between the two towns, merely saying, "You will make the line so." Whether his Imperial Majesty had any theory that a straight trunk line between the main points would prove the best foundation for a system, or whether he acted simply from caprice or contradiction, must be left to conjecture. With this anecdote of paternal rule we take leave of a book which deals with more subjects, and even more important ones, than those we have touched upon, and which every one with any interest in European affairs and in social progress ought to read.

* It seems that this is the new way of spelling the Imperial title. The spelling of foreign names in English seems, under recent new lights, to be getting into endless and hopeless confusion.

THE LAW RELATING TO PARTICULAR LIGHTS.

We have previously referred to the question of the right to lights, and the way in which these lights can be affected injuriously by new buildings. But in addition to the subject of what we may term general lights, there is also the question of *particular* lights, if we may use the word. And by particular light we mean lights employed or necessary for particular or special employments or businesses, and this matter is of perhaps greater importance, because whilst the owner or person entitled to this particular right may be fully aware of his privileges, it is quite possible that those who have not such a right may possibly unintentionally infringe the rights to particular lights possessed by others. But particular lights, we may at once say, must have existed for twenty years without interruption, in order to give their owners a perfect right against all encroachments. The owner of a particular light, if it has existed for this length of time, cannot be deprived of it; but there are two elements necessary in the first place to constitute such a particular light. The light in question must be necessary for some particular purpose, and the building in respect of which it is claimed must have been used for the particular purpose. To take the last point first, in that case to use the words of an acute judge, the light becomes the property of the possessor, "property which no man has a right to take from him." That, so far, is simple enough, but questions of greater nicety arise when we come to consider whether or not a certain light is required for a certain employment. Of course where a person possesses a certain light and possesses also an ordinary dwelling-house or shop, if his light is disturbed, it must be done so as to cause him substantial injury or annoyance. But if in this house the owner carries on some particular trade or profession, he may be entitled to prevent any deprivation of light at all if he would, by such taking of the light, be injured so far as regards this particular trade or employment. Therefore, to put it shortly, a person who possesses a right to a particular light, possesses a right to an ordinary amount of light, plus that which is required for his unusual trade or employment.

It will best explain this proposition if we give an example from the most recent case on this subject, decided in the course of last year, in which the well-known sculptor, Mr. Theed, was the plaintiff. He complained that the defendants interrupted his rights to the light which he needed for his artistic work. The statement of claim set forth that the plaintiff, as a sculptor, required not only a direct light, but what is technically termed an under or low light, which he had hitherto enjoyed. The court decided that the buildings complained of would cause a serious diminution of the light required by the plaintiff for the purposes of his profession; and this being the case, an injunction was issued to prevent the defendants proceeding further with their erections. Here, it will be observed, was a particular light long enjoyed, a particular and very technical art, and it is equally clear that, except for the unusual character of the light required, there was no such diminution of the plaintiff's light as would under ordinary circumstances have entitled him to prevent the defendants from continuing their work. We will now give an instance of exactly an opposite character, that is, where a right of the kind now being discussed was set up, and was pronounced against, on the ground that there was no need for the light desired. The case is that of the "City of London Brewery Company *v.* Tennant," and Lord Justice James stated the case in words which cannot well be improved upon. "Now in this case there is no pretence for saying that there has been any interference with the comfortable enjoyment of the house as a dwelling-house. The question is confined entirely to the diminution of light in one room, which room has for many years been used as a bar to a public-house. The question then is, has there been any substantial diminution of the light so as to cause inconvenience in the case of the room as a bar to the public-house." And the conclusion the judge arrived at was that there was no substantial damage done. But here, again, it will be observed that there is a wide difference between the trade of a publican and a sculptor, the light required to drink a glass of beer can scarcely be considered as of an unusual character, and therefore this last case may be considered a good instance of the limits beyond which this doctrine will not be extended. There are many cases besides those of an artistic character in which the right to particular lights can be maintained, and it is important that this particular branch of the law should be known by others than lawyers.

A TREE FROM A SEED.

Our readers will remember the brave slater, Caris, who on the top of the belfry of the church at Ville-sur-Ourthe, in Belgium, endured without moving the pain produced by molten lead falling on his arm rather than risk the life of his companion who was standing on Caris's shoulders to fix a lightning-conductor. We made his courageous endurance known, and having fully satisfied ourselves as to the correctness of the story, were able to send him a trifling sum subscribed by three or four friends, simply as a testimony of appreciation. The story we had told ultimately reached the Belgian newspapers, and Major-general Bartels took up the matter, appealed to the officers of the Belgian army to mark their sense of Caris's plucky act, and has recently sent us, with kindly acknowledgments, a packet of printed papers showing what has been done. To make the story quite short, his Majesty the King of the Belgians, —always ready to do a generous act,—sent a special gift to Caris; the Count of Flanders joined in the general subscription, and a sum of money has been collected, with which some plots of land have been purchased, and will make the rest of his life easier than it has been. General Bartels is good enough to ascribe much of the success which has attended his efforts to our initiative, and so from a little seed has come a goodly tree.

"Caris! thy tale shall be inscribed
Bright on the roll of hero fame,
And distant times will reverence still
The simple Belgian workman's name.

All honour to the kindly hearts
That made thy deed of courage known,
And rallied to the workman's cot
Even the homage of a throne." C. S.

MUSIC IN ARCHITECTURE.

In more than one,—in more than several,—articles in this journal, and in some comparatively recent, certain theorems have been enunciated with respect to the theory of Architecture, which might seem presumptuously dogmatical unless on the understanding that demonstration in detail were producible on demand. Our reference is to such statements as that not only are Music and Architecture distinguished among the arts by the elements with which they respectively deal being susceptible of accurate numerical estimate and measurement, but that the certain leading laws and principles of harmony, as based on proportionate relations, are common to both, and may be brought into comparison with the simplest numerical accuracy.

These statements have been made with the full consciousness that they are liable to be listened to with scepticism, or even to provoke a share of that contemptuous reception which has certainly been merited by what has been proffered in many instances as a satisfactory solution of problems which in general terms might be taken to be the same. But other speculators must bear the burden of their own misdoings. In the fact that an inquiry of interest has been so unsatisfactorily dealt with as to be likely to be thrust aside indefinitely, there is incitement for those who are convinced that the true clue is in their hands, to strike for a success which will be enhanced by the strength of the prepossession which has to be encountered at starting.

What is a more serious difficulty than this initial discouragement is the consciousness that the subject is of necessity and in its nature somewhat dry; at least, it is apt to be thought so; even those who have surmounted the notion that the matter is a futility from beginning to end,—who can recognise that it demands and doubtless will reward an accurate analysis,—may be disposed to draw back from an invitation to follow the process. Interesting, again, as the subject may be, it may be thought likely to interest comparatively few; and an audience of the few, however fit, is not what a journal can be expected to lay itself out for, that stands in close relations to the business of life, and is bound more particularly to insist upon theory in those precise lines where it inosculates with the practical. But this is precisely what the theory in question asserts for itself, if it is only once thoroughly mastered in connexion with illustrations forthcoming in due time.

There is nothing for it in such case, if the thing is to be done at all, but to make a bold appeal to confidence, and ask for a little resolute attention while the bearings of the subject are being set forth. This can only be done by entering, in the first instance with some minuteness, into what has the formidable name of the Theory of Music. We believe that it can be shown to be by no means formidable; divesting it of technicalities, deducting—

"What is but vanity or dress
Or learning's luxury or idleness,"—

we shall find that we may dispense with logarithms on the one hand, and physiology on the other, and follow forth our subject to very important conclusions by easy application of even less than the first four rules of arithmetic.

We invite, then, in the first instance, an allowance of candid attention and consideration to a simplified exposition of those elements of the system of music that are usually presented obscurely and repulsively; if thus much is conceded, we do not hesitate to engage that the pertinence of our exposition to the theory,—the theory even in its nearest reference to application in architecture,—shall be satisfactorily established.

The analogy between Music and Architecture that seems to present itself most definitely is constantly recognised between the equal spacing and regular subordination of architectural members, and the regular bars and subdivisions of the parts contained in the bars of musical successions. The analogy is just as far as it goes; but proportionate divisions of time still hold but a secondary place in considerations of harmony, and equal spacing gives but a barren outline of architectural effect. This aspect of the subject may be returned to, but must be left aside for the more important discussion of the harmonious relations of musical notes in respect of the quality that makes them musical, in fact, of pitch, and that determines what notes shall or shall not take their place in a musical scale.

When it is proposed to bring any two arts whatever into comparison, it is of the highest

importance to keep in view from the first that each must have its differentiating characteristics. Be the analogy between them what it may, there are still two arts and not one, each with specific capacities and specific disabilities. This comes out most distinctly when one art makes attempt to reproduce the effects of another; when painting would represent a work of sculpture, or a scene from an acted drama. So we are glad and grateful to have such multiplied representations of paintings as engraving supplies, in many respects so admirably; but, nevertheless, we are bound to recognise that, in such employment, the art is hampered by obligation to translate in some way what, in any perfect way, is untranslateable. And not only is the art so bound to strain after what it cannot do, but it is withheld from doing what it best can; it is arbitrarily shut out from a chance of exerting energies which are its proper and exclusive birthright. The true triumphs of Engraving ought to be achieved by self-assertion as an independent art developing itself from within outwards. Many fine works have no doubt been produced on this original plan as true originals, in which the genius of the art has been pressed without restriction or reserve to the production of its own peculiar effects; but it still is apt to betray too much the depressing influence of servitude to painting; and true it is of the artist as of the serfs of the king of Ithaca,—

"Jove fixed it certain that whatever day
Makes man a slave takes half his worth away."

The theme of the celebrated Laocoön of Lessing is the diversity of treatment of the very same subject, which is imposed by the several conditions of art so diverse as sculpture and poetry. As we read this treatise now, we find it necessary, for the full appreciation of its value and its celebrity, to recal by its aid, as best we may, a conception of the views which it combats,—now so obsolete that, but for its authority, we should doubt their having had any considerable vogue; but if, as we read, we mentally extend the scope of its enunciations to other arts, we may find that its generative thought has an import even yet not exhausted.

When, therefore, we propose to set forth the analogy between harmony in music and in architecture, it is of the first importance to trace with accuracy the material conditions which exclusively affect one art or the other, and thus to define with strictness the range of the principles that are common to both, and the point where speciality comes in, and they must needs part company. It is by the neglect of this precaution that the speculative have constantly made shipwreck. The sense of harmony which is excited by admirable architecture has given no unjust currency to the saying that architecture is music petrified; but it has been a hasty conclusion that the harmony of audible sounds must therefore impose its own limitations on the harmony of visible dimensions and magnitudes. It would be just as reasonable, or rather as unreasonable, to bind music to the proportions which are most in favour, or it may be are exclusively, available for her sister art,—for assuredly we are constantly sensible, in attending to a grandly conceived composition,—a symphony or a succession of choruses,—of an harmonious effect that is most appropriately represented by the term architectonic.

It might seem that there is a primary opposition between the modes of presentation of musical and architectural compositions that should put any such comparison out of the question. A great architectural whole presents itself to us simultaneously; we may take in the entire design and distribution at once, and from a single point of view; and the original impression may be repeated,—be continuous,—be gone over and over as attention travels and re-travels from the whole to parts, from one part or another as starting-point, to recovery and re-consideration of the whole. Music, on the other hand, carries us forward ever and without pause; it is a narrated story in contrast to a pictured incident; attention is bound to the course which is prescribed for it, with no option of divergence or return, and, when released by a conclusion, can only recur to the experience by an effort of memory, which at best will be incomplete in vivacity as well as in volume and sequence.

But, on the other hand, it is to be observed that in the case of the worthy bearer of worthiest music, the effect of one movement by no means ceases when another is commenced; its impress remains on the sensibilities, and thus it enters into, modifies, enhances, that of the second, and so onwards; so that as the composition grows towards its completion, the composite influence on the sensibilities is growing also, until the resultant impression may be considered to be as absolutely under obligation to every successively preceding part as that which architecture produces by all its parts in presence together. So it is that a grand speech, like a fine overture, impresses us with a sense of harmony which we are moved to qualify as architectonic, when it has conveyed to us a sense of a large unity among varied parts all duly subordinated, all contributing in order and proportion to a purpose which intellectual and imaginative power combine to make most richly varied, yet culminating at last in singleness and simplicity itself.

Abstractedly considered, therefore, the analysis of harmony might be commenced from examples of either art indifferently; but there can be no hesitation as to adopting music as the basis of the inquiry, and of the exposition of its results. The ground here has been cleared by many predecessors, and abundant examples are at hand for illustration; what we have chiefly to attend to is to exhibit the results of analysis in a more intelligible form than they usually are presented in, and then to mark with precision the lines which divide the theory of harmony as applicable to two arts, or as dependent on the distinctive conditions of one alone.

Harmony in any form is a matter of numbers,—of quantity, and of fitting quantities,—that is, of proportion. It is so in painting no less than in music and architecture; but the harmony of colours in a picture is dependent on relative degrees, and masses, and juxtapositions of tints, which it is for the refined eye alone to determine in the first instance, or to appreciate afterwards, and which science certainly has not yet succeeded in reducing to numerical expression. Some attempts have been made in this direction; but little more than crudity most repulsive has been produced by those who have taken as a sufficient guidance to the mysteries of combined colour the receipt provided for realising the ultimate conditions of white light. Musical sounds, in consequence of the peculiar conditions of their production, have always been more amenable to scientific analysis; and it was due to this that music was adopted in the remotest antiquity of science as the type of that dependence on proportional quantity which it was justly inferred must be the explanation of all the variety, and all the regularity which dominates variety, alike in the planetary system and in human arts and human affairs.

On the assumption, then, that we do not hastily rely on enlisting a certain following in the direction of certain regions which should not be the less inviting because hitherto,—by the moderns at least,—left unexplored, we premise in the first instance an exposition of the proportionalities that underlie the musical scale. If a sufficient account of this, an account at once simple and exhaustive had been found where it is most naturally sought for, it might be enough to refer to it, or at least abstract it. Such, however, has not proved to be the case. An independent analysis, therefore, becomes indispensable, though it is only when this is completed that we can enter into the properly architectural exposition in something of the spirit of the delightful lines of Lucretius:

"——— Juvat integros accedere fontes,
Atque haurire: juvatque novos decerpere flores."

The distinction between sounds as musical sounds or notes and noises depends primarily on a distinction in respect of pleasingness. Certain sounds are in themselves agreeable to the ear as contrasted with others which are unpleasing, or, at best, simply inoffensive. The standard of agreeableness in this, as in all other matters of taste, must be adjusted with reference to sensibilities that are neither sophisticated by false culture nor merely rude and unexercised, or exercised only to their disadvantage. Sounds are not beautiful in any sense that entitles them to be treated respectfully as elements of true beauty, merely because a barbarous tribe, or a coarse individual of any tribe, takes pleasure in them; while, on the other hand, sounds may have to be protected against exclusion at the bidding of a theory which pedantically disregards and defies the verdict of cultivated ears, or of fashion that is the victim of habits and narrowing prejudices.

The pleasing sounds, which to express their pleasingness we call musical, have certain common qualities, or, perhaps, we may say a single quality, with common names, such as brightness, purity, distinctness, clearness. Such qualities have their analogy in colours, which are recognised as beautiful individually in virtue of a certain positive homogeneousness which enables their best effect to tell continuously and completely,—unchecked, and, to employ an expressive word, unmuddled.

All sounds are communicated by vibrations of the air, which science has found the means of measuring with the utmost exactness; and experiment has proved that those sounds which in virtue of their specific delightfulness we call musical,—that musical notes, in fact, are produced by vibrations which are in excess of a certain minimum rapidity, and succeed each other at a rate which, whatever its rapidity, is uniform.

The minimum of rapidity which is capable of producing a continuous musical sound is said to be about thirty double vibrations in a second,—that is, thirty departures and returns of the vibrating matter to the same point. When the vibration is slower than this, any sensation which it produces ceases to have the continuousness which is characteristic of a musical sound, which constitutes a note; and, on the other hand, when a certain maximum rapidity is exceeded, the sensation which is excited becomes so shrill as to be disagreeable, and even painful, and thus unmusical, just as a colour may be so brilliantly illuminated as to confuse and pain the organ of sight. The specified minimum must be taken to measure a certain capability of the ear, which again may be illustrated by an analogy from sight.

When a spark at the end of a stick is whirled round at less than a certain rapidity, we only see a single spark carried round in a circle; if a certain rapidity be attained, we see a continuous circle of light, and as the rapidity is gradually increased, the illuminated circle will be seen as brighter and brighter. These differences, it is well known, are due to the limited continuance of an impression on the eye; this effect is exemplified in the experience of our continuing to see a bright spark for a moment or so after closing our eyes to the exciting cause. As a necessary consequence, if the lighted spark returns in a circle to the starting-point before its first excitement is exhausted, or, as we say, has died out,—all the intermediate points of excitement will still be active, and the vision of a luminous circle results.

We have precisely the same authorisation for crediting the ear with a degree of retentiveness of impression, in virtue of which, within a certain limit, one momentary excitement is indistinguishable as divided by an interval from another; and what is equally important, when a sound ceases, the ear is left in a certain modified condition of sensibility, which must tell upon its receptivity of an ensuing excitement. Such modified receptivity has two chief varieties,—a certain excitement prepares and predisposes for a repetition of the like; a stimulus which does not exhaust the sensibility leaves it prepared to receive a repetition without the violence of a surprise; a repetition is prepared for and expected. When exhaustion does ensue, the sensibility is prepared for receiving with relief a new stimulus that addresses different receptive organs.

For a musical note to ensue, therefore, it is necessary that vibration should proceed with a certain degree of rapidity, but the nature of the sound which results is found to depend on the rate of rapidity,—it becomes higher as vibration becomes more rapid, and therefore the sound can only be maintained as a uniform musical note by the vibration being maintained at a uniform rate.

We are accustomed to regard musical notes as successive incidents in a discontinuous series, but it is evident that musical vibration may be commenced at the very slowest rate the ear will acknowledge, and be gradually increased without any perceivable break until it reaches the limits of hearing in the other direction, and no further increase of high pitch is distinguishable. The parallel case in colour would be given by the colours of the spectrum being followed by the eye through absolutely insensible gradations from one extremity to the other. Let the eye pause at any point, and the tint which it would rest on, taken as a line transversely to the spectrum, would be a single colour that might be dealt with as individual and homogeneous; and in like manner the discontinuous scale of sound as described may be stopped at any point, and the rate of vibration which pertained to it being maintained would give us,—does give us,—a specific musical note of a definite pitch dependent on a specific uniform rate of vibration.

Musical sounds thus differ, and may differ infinitely in *pitch*,—in their position upon a scale extending from the gravest sounds to the most acute,—from the deepest base to the highest treble; and they may differ also in *duration*, whether they are alike or not in pitch, accordingly as one is maintained longer than the other. There is no limit to the length of time that it is possible for a musical note to be sustained; what may be the limit of momentariness it may be more difficult to say.

Both pitch and duration, again, are independent of *loudness*. Two notes of different pitch may agree in respect of loudness, and two of like pitch may differ in this respect; that is to say, the pitch of a note as more or less acute does not change because it is sounded more or less loudly. A note may be sustained at a definite pitch, and yet gradually change in respect of loudness. A note is the same note whether we hear it in full power as we stand by the instrument, or catch it at a distance; it is the same for two persons at different distances, and may be for the same person if the original loudness is gradually altered.

Another difference between musical notes is in respect of *timbre*,—the quality by which we recognise the distinction of notes as produced by vibrations transmitted from various materials. Notes which correspond exactly in pitch, loudness, and duration are recognised as proceeding from the human voice, a violin, hautboy, or flute by a peculiar quality which we call *timbre*.

This is a word which is so useful that it cannot be too soon or too completely naturalised into English,—and this would be best done by bravely spelling it in future "tambre. Difference in *timbre* resulting from the variety of instruments employed is the principal basis of the charm of orchestral music; but the same difference affects the delightfulness of two instruments of the same kind or of two human voices even when singing the same words and notes with equal accuracy. Musical sounds therefore may be more or less alike in pitch, loudness, *timbre*, and duration; may agree or differ in all or any of these respects, and in any degree and in any variable degree.

Differences of pitch, as we have said, are known to depend on different rapidities of vibration; differences of loudness depend on the extent or span of the vibrations,—that is, on the extent of the excursions of the vibrating atoms on either side of the position of rest whatever may be the rate of the excursions. *Timbre*,—the specific quality of a sound as due to one material or another as its transmitting agent to the air,—has been assigned to variable divergences of the lines of atoms intermediately between their extreme vibrations.

Grave and acute sounds are sometimes distinguished as deep and shrill or even low and high; but the word "low," is apt to be ambiguous as sometimes equivalent to not loud,—as in the case of a low sound. It may be added here that all sounds grow feebler as they recede from the originating source, but that all travel at the same rate and arrive together as they started, except so far as some have become inaudible.

SCIENCE AND ART TEACHING IN IRELAND.

The proposed Science and Art Museum and National Library in Dublin was the subject of a long discussion at the meeting of the Corporation on the 16th ult. Mr. Vereker proposed, "That while we heartily approve of the action taken by the Government for the foundation in Ireland of a Department of Science and Art, we feel it our duty to state in the most explicit manner that no such department can be established in this country with a reasonable prospect of success that does not carry out in its integrity the promise made by Mr. Ward Hunt, then Chancellor of the Exchequer, to the deputation of Irish peers, members of the House of Commons, gentlemen, and merchants who waited on him on the 26th of March, 1868, and that it is indispensable to the success of such an Irish department of science and art that it should be placed under the management of a board of Irish gentlemen in direct communication with the Government, and with such state supervision or control as may be desirable, that for the above reasons we object to so much of the Bill before us as invests the existing department of science and art with any authority, privileges, or right of interference with science and art in Ireland." The resolution was carried by 19 votes against 2.

THE HOUSEHOLD AT DIFFERENT ERAS.*

THE REFORMATION.

"Half the intellect of the age was absorbed in the base sciences of grammar, logic, and rhetoric: studies utterly unworthy of the serious labour of men."

John Ruskin, 1853.

A happy dispensation of Providence has permitted individuals with different and opposing qualities of intellect to influence, each in his turn, the opinions of mankind. As at enormous and incalculable intervals of time the surface of the earth has been deprived of the sun's rays, or submitted to them, so the inhabitants, at successive and sometimes remote eras, have been imperceptibly directed to think and act in a manner subversive—to all contemporary appearances—of former principle and practice; and their thought and action have been ultimately subverted by an advanced stage of principle and another form of practice. If an art-enthusiast like Mr. Ruskin possessed, some twenty-five years ago, enough of grammar, logic, and rhetoric to exercise mental sway over thousands of his countrymen, it was partly because, about 250 years before, Bacon, Shakspeare, Ben Jonson, and others had cultivated those so-called base sciences. Every cycle of years into which the history of Western Europe may be divided has doubtless been usefully attended, both at the beginning and the end, with its enthusiasts. To such men Charlemagne probably listened; such men encouraged the artificers of the twelfth century to break away from monastic tethers; such men preached the true Vitruvian principles; and each having done his work, separately or with others, lingered, perhaps, upon the world's stage, "*sans* eyes, *sans* taste, *sans* everything." One of such men is Mr. Ruskin. His mission is now accomplished; and though the excellence and value of the work he did may be hereafter depreciated, its results will neither be lost nor lessened, when, in 1903, people smile at the recital of words which, fifty years before, were considered to be little short of heaven-descended wisdom.

The renascence of the arts and the revival of learning are seductive themes; but they contain perhaps hardly enough attraction to induce a repetition of the fine language that has been bestowed upon them at various times. Neither of those phrases, we make bold to say, conveys a true notion of the reality. It was the spread of intelligence, and the infusion of fresh blood among the cultivated classes, which produced that brilliant chapter of history, the sixteenth century. People then first began to talk and write about the arts previously practised in accordance with traditions handed, if not from father to son, from craftsman to craftsman. People then first began not only to travel, but to record and compare their experiences; and the travellers returned to delight and astonish with their tales. The difference between England in 1600 and England in 1500 may be likened to the aspect the world presents to a man now who sees it after having passed two months in a ship. Twenty-four hours of every day spent upon a deck, or between decks, for forty-eight or sixty days, so crib, cabin, and confine the mind, that a solitary woman, deformed and ugly, acquires beauty in the eyes of her male fellow-prisoners; that the pettiest grievance is nursed into a personal insult or a common misfortune; that one passenger regards another with feelings of love or hate utterly immoderate in their intensity. But once on firm ground, the world seems to open and expand; the traveller is astonished at the sentiments he expressed on board ship, and half ashamed to recall the apparent waste of life the voyage represents. The islander of the time of Elizabeth seems to have set foot on the continent of Europe, and in other parts of the world, with very much the same relief and curiosity that an educated inhabitant of Japan doubtless experiences on landing in the port of London; or that an Englishman, cooped up for six weeks in a steamer, entertains on reaching Yokohama. The author of "The Anatomie of Abuses," one Philip Stubbes, wrote in 1583 that there was almost as much difference between a man who had travelled and him who had dwelt continually in one place, as between one living and one dead. Nor did Shakspeare hesitate to describe the young exquisites of the time as a prey to some of the glaring affectations which a superficial acquaintance with foreign manners always engenders. "Farewell, Monsieur traveller," cried Rosalind, "Look you lisp and wear strange suits; disable all the benefits of your own country; be out of love with your nativity, and almost chide God for making you that countenance you are; or I will scarce think you have swum in a gondola." The results of this travelling were inevitable; the Englishman was "a proper man's picture," but his doublet was bought in Italy, his round hose in France, his bonnet in Germany, and his behaviour everywhere,—at least, so said Shakspeare's fair mouthpiece, Portia.

At the coronation of Henry VIII., in 1509, London was still subservient to the rules and prejudices of Mediæval discipline. Henry, accompanied by his queen, left the Tower to thread the streets of the city richly hung for the occasion with cloth of Arras and tapestry, and even with cloth of gold. The various trade corporations were stationed in Cheape and Cornhill, and Holinshed tells how "every occupation stood, in their liveries, in order, beginning with base and mean occupations, and so ascending to the worshipful crafts." Edward Hall, or Halle, also describes "the crafts standing in the streets in good order" when the Admiral of France proceeded from Tower Wharf in great triumph to the Bishop's Palace, where he lodged till the eve of St. Bartholomew. The next day he was received by the king, and "to tell you," continues Halle, "of the costly banquet-houses that were built, and of the great banquets, the costly masks. . . . . that were shewed to him, you would much marvel and scant believe." Here is the repetition of early custom: the extemporal construction of slight edifices around or in the vicinity of an actual building. Royal and municipal houses were not yet planned for the reception of great guests and their attendants. In Paris, from the records of an embassy which arrived there in 1577, it was then a common custom for the *concierges* to let their masters' houses by the day or the month during the absence of the owners. Even as late as 1638, when Marie de Medicis arrived in London, her retinue was billeted upon private persons; and in the houses of the latter, the doors were chalked with the names or numbers of those to be accommodated. The custom had long been common, and we have already alluded to it in our chapter on the "Middle Ages"; a traveller was usually preceded by a courier who announced his arrival, and sought permission for his master to use, or who even hired a private house. Sir John Gresham entertained certain of the train of Anne of Cleves, who came to England in 1539; and there is an account of 56*l.* 4*s.* 4*d.* paid to him for the charge of ambassadors lodged in his house. The practice of ceremonious hospitality at home among the citizens was only just beginning; a mayor in 1501 is said to be the first who kept court in his own house. He was the first also to be attended from the Guildhall to the river side, when he took barge for Westminster, by the aldermen on horseback.

The discipline of the trade corporations, getting more and more difficult to enforce, was an insuperable bar to freedom of knowledge and competition. One of the "petty projects" attributed to Cardinal Wolsey was an opinion that children should follow their father's profession, because the father's "eminency" in any art "begat in the child a propension to the same."* The Cardinal used to urge that when two or three generations "happily insist in the steps one of another, they raise an art to perfection." It was the practice, not the knowledge of this fact, which was dying out; and many things combined to effect the change. An evident yearning on the part of tradesmen and artificers to escape from the immediate vicinity of the trade Hall, or from a particular quarter,—and doubtless from the restrictions imposed upon them,—was the subject of no little perplexity in London. There is a relation in Arnold's Chronicle of the "great ruin and decay" to which the city was brought because so many freemen dwelt beyond the circuit of its liberties and franchises; and it was enacted, or at least it was attempted to enact, that "all manner of persons pretending out of the city and franchise thereof . . . . shall keep (within the city) their continual and principal dwelling and inhabitation with wife and household, or else utterly to be disfranchised." So great a number of "stranger" artificers existed that the trade of the freemen artificers was said to be destroyed. A clause in one of the Acts, printed in Arnold's Chronicle, enjoins persons free of the city not to buy wares made by a stranger,—and a "stranger" did not necessarily imply a foreigner,—nor to "put

* See p. 678, *ante*: "The Great Moguls."

* Lloyd's "State Worthies." The Cardinal, we take it, was right as far as the artistic part of the question goes.

anything to make to a stranger artificer." At that time a great many Germans were domiciled in England; and much of the ornament upon the Elizabethan gables, tombs, and furniture may be traced to a German source. In 1517, London was said to be filled also for miles around with "French fashions and infections"; and there was a proverb then current that "Tottenham is turned French." One of the abuses catalogued in Stubbes's "Anatomie" is the ambition rampant among women for the silks, satins, and damasks of the Continent; and, according to this early Puritan, if things did not come from beyond the sea fashion hardly deemed them to be worth a straw.

The Flemings were then the great traders of Western Europe; and in Flanders the municipal laws were of a protectionist character exceeding any that were in vogue, or, at least, practised in London. At Antwerp, if a citizen married out of the city without leave of the burgomaster he forfeited his freedom; and no one could exercise any art in that city until he was made free of it. If a citizen dwelt away from Antwerp for six weeks without leave he lost his freedom; only the unmarried citizen could stay away as long as he pleased. If a citizen with his wife and family dwelt outside that city, he was compelled to declare himself of the citizens without, or he was deprived of his freedom. The rule was:—"He that declareth himself a burgess without is bound to take his oath to the town once a year, and to pay half-a-crown to the public treasury; and so he may enjoy his freedom and privileges without any prejudices." The tendency, both on the Continent and in England, to break away from the trammels of guilds and corporations, is apparent in the descriptions extant of the time. The writings of Philibert de l'Orme are full of allusions to the prevailing contempt of earlier discipline; and Stubbes is eloquent thereon. "To such outrage is it growne," he cries, "that nowadayes every butcher, shoocmaker, tailer, cobler, husbandman, and other; yea, every . . . . artificer and other, *gregarii ordinis*, of the vilest sorte of men that be, must be called by the vaine name of 'maister' at every word."

One of the means by which the learning cabined during the preceding ages was diffused in England during the sixteenth century, is attributed by Mr. Gifford, the translator of Juvenal's Satires, and the virulent champion of Ben Jonson's reputation, to the numerous translations which were made of works published in Spain and Italy. The destruction of monasteries and the disrepute in which the old forms of religion were sunk led young men who had been intended for the priestly life, to flock to the metropolis; and their chief resource, in order to earn the means of subsistence, was translation. Until the latter half of the sixteenth century, the principal literature within reach of educated Englishmen was that of ancient Greece and Rome, and in those days even ladies of the higher classes read a little Greek and Latin. Indeed, no one then seems to have thought it worth while to make a systematic translation of the classical works. Stories of voyages to the East and West Indies and to other parts of the world were among the first modern books that reached the public ear. The dissensions between the rival religious authorities were obviously prolific of argument. An imaginary dialogue, written by one George Gifford, and printed in 1580, shows very clearly the sort of opinions held by Papists and Protestants concerning the present and future state of men. The former doubtless argued, and the latter scarcely cared to refute the charge that the Lord's House had become a den of thieves. Both Shakspeare and Ben Jonson refer to "Paul's," and to "fopperies at Paul's," in a way likely to puzzle those who admit the sanctity of a sacred edifice. So great was the indecorum which reigned in the cathedral of London, that the Lord Mayor and the Common Council issued instructions relating to the preservation there of order. The preamble stated that "The material temples of God were first ordained for the lawful and devout assembly of people," and that therefore they ought not to be used as markets or common places of meeting. The inhabitants of the City were enjoined not to pass through the building carrying vessels of ale or beer and baskets of bread;* and not to lead mules, horses, or other beasts through the Cathedral of St. Paul. The churches of the metropolis were not yet encumbered with parishioners' pews; they afforded a wide expanse of shelter. Indeed, it is stated that the Cathedral of Paris was not provided with such furniture until after the Great Revolution. The oldest mention, however, of benches, specially reserved for the use of parishioners, is said to be at the Church of St. André des Arts, in the year 1577, and the allusion made to the "pews" by Sir Christopher Wren implies that long before his time the Londoners had been familiarised with their existence.

In the utter disregard which seems to have been felt for the maintenance and preservation,—the word "restoration" had not been adopted,—of ecclesiastical edifices, the chain of native building traditions was allowed to drop. St. Paul's cathedral is described by writers of the time as tottering in parts on the very verge of ruin; and during the early years of the seventeenth century it is the "stately palaces" on either side of the river, not the churches, which astonish the traveller. Foreign ambassadors affirmed that the most glorious sight in the world, taking water and land together, was to come upon a high tide from Gravesend, and shoot the bridge to Westminster. Then, necessarily, the river was the great highway. It was Elizabeth not Cleopatra that *Enobarbus* pictured:—

> "The barge she sat in, like a burnish'd throne,
> Burnt on the water; the poop was beaten gold;
> Purple the sails and so perfumed that
> The winds were lovesick.
> . . . . . She did lie
> In her pavilion (cloth of gold, of tissue),
> O'er-picturing that Venus, where we see
> The fancy outwork nature. . . . . From the barge
> A strange invisible perfume hits the sense
> Of the adjacent wharfs."†

In the streets men rode on horseback, and women were carried in litters. Anne Bullen was so conveyed to Westminster, and the chronicler says that "in the middest of the Hall she was taken out of her litter." Coaches, of a shape not unlike that of the hearse still common in Paris, were the state conveyances of the great; and towards the close of Elizabeth's reign a bill was introduced to restrain their excessive use![†] Imported into this country from Holland, the Queen's coach was driven by a Dutchman who was appointed to the royal household in the year 1564. At that time the horse, both for riding as well as driving, was of the huge Flanders type known to modern eyes in the dray-cart of London and the omnibus of Paris.

An interesting parallel made by James Howel between London and the great cities of Europe was published in 1657. In spite of an excusable bias for the charms of the English capital, and its superiority over all other cities in the world, he wrote of Palermo, that it was "a jolly neat city," possessing one thing of which neither London nor any other town in Christendom could boast,—"a fair spacious uniform street of above a mile long." Next to that of Palermo he ranks the old High-street of Edinburgh, running, as it still does, between Holyrood and the Castle. James Howel also regrets that the numerous proclamations for building in brick, during successive reigns, had not been observed in London. He attributes most of the stone buildings "whereof many have remained until our time" to an Act passed in the first year of Richard Cœur-de-Lion. By it every building up to a certain height was to consist of stone, and the roof was to be covered with slate or "burnt tyle." His words are,—"For gaining of ground they have been taken down, and in place of some, being low (as but two stories above the ground), many houses of four or five stories are placed." In Cornhill Ward he says there were "divers large houses, especially for height, for merchants and artificers." About sixty years before, some of the Flemish towns had been visited by Guicciardini; and, as we have already said, the Flemings surpassed the English in the magnitude of their trade and the size and constitution of their cities. Guicciardini describes Ypres as a fair rich town and well built," notwithstanding that most of the houses were of timber and of small appearance without"; but the buildings of Liege were of stone, and, he adds, that Liege from its beauty, riches, and the number of its churches, surpassed all other towns either of France or Germany. The stress which is laid in legal documents of the time, both in Edinburgh and London, upon a "stone house" leads to the inference that a substantial or a presumably uninflammable building for private dwellings was comparatively rare. In England, the systematic construction of even large houses composed entirely of wood and plaster, continued.* Our fig. 1 is the reduction of a plan made by John Thorpe; and it is preserved in his Sketch-book with others of a similar kind. Those names of the rooms upon our diagram were written by the architect himself upon his plan (about the year 1600); and the "uprights" or elevations which accompany it (in the Sketch-book) represent the design of a man far less learned than Philibert de l'Orme, yet, like his French predecessor, who died about 1577, engaged in grafting upon native forms of construction foreign ornament of Classical origin.

The porch is an example of Gorhambury, and it is not dissimilar from designs in Thorpe's book. When the queen, in one of her progresses, visited Sir Nicholas Bacon there, she complained jestingly of the smallness of his house; and the Lord Keeper answered:—"Madam, my house is well, but it is you that have made me too great for my house." That response exactly hits the state of the time. There were plenty of buildings, big and small, but the big houses had grown from century to century, and, after alterations and additions, were what they were; the little houses were too rough and bare to be other than mere shelters. Both were devoid of any systematic plan or arrangement; both were unsuited to the tastes,—we do not mean tastes architectural, but tastes domestic,—which were spreading, and to the comparative refinement which some enjoyed and others envied. Lord Bacon complained that such huge buildings as the Vatican and the Escurial contained scarcely "a very fair room." His essay is necessarily an advance upon the thought of his contemporaries. "I say," and it is he who advises, "you cannot have a perfect palace, except you have two several sides; a side for the banquet, as is spoken of in the book of Esther, and a side for the household: the one for feasts and triumphs, the other for dwelling." Such a theoretical division is too obviously antique to be practically adopted, though John Thorpe's house, designed by himself,—but not built, we think,—was arranged on a similar principle (see fig. 2). The following rigmarole, written against the plan, is more curious than grammatical:—

> "Thes two letters, I and T,
> Joyned together as you see,
> Is ment for a dwelling-house for mee."

In the letter I is arranged a block for the service, in the letter T a block for the dwelling, and the two are connected by a wooden passage or gallery covered only at the top, and one story high. Lord Bacon's "perfect palace" is to be divided into two parts,—one for ceremony and the other for home. "I understand," are his words, "both those sides to be not only returns, but parts of the front . . . . and to be on both sides of a great and stately tower in the midst of the front. . . . . I would have on the side of the banquet (ceremony), in front, one only goodly room above stairs . . . . and under it a room for a dressing-place at times of triumphs. On the other side, which is the household side, I wish it divided at the first (floor) into a Hall and a Chapel, with a partition between . . . . and those not to go all the length, but to have at the farther end a winter and a summer parlour; and under these rooms a large cellar sunk underground, and likewise some privy kitchens, with batteries, pantries, and the like. . . . . Beyond this front is there to be a fair court, but three sides of it of a far lower building than the front. And in the four corners of that court fair staircases cast into turrets on the outside, and not within the row of buildings themselves. . . . . The row of return on the banquet side, let it be all stately galleries; . . . . on the household side, chambers of presence and ordinary entertainments, with some bedchambers." In this quo-

* We remember to have seen a similar notice on the doors of St. Eustache, near the Halles, Paris.

* There is something exquisitely ludicrous about the "properties" with which Shakspeare has surrounded Cleopatra; happy the poets that lived before the age of archæology!

† In the account of Sir Thomas Roe's Embassy to the Court of Jahânghir, at Agra, occurs the following passage:—"One particular of his Majesty's [James I.] present to this Prince being a fine coach [a *thing wholly* new, and consequently to be presumed pleasing to him], he was so taken with it that he got the same night into it and made some of my men draw him about the court."

* The mansion of the Earl of Bedford, built near the bottom of what is now Southampton-street, was principally of wood. It was begun during the latter half of the sixteenth century, and remained till 1704. This building was called Bedford House (not to be confounded with the Bedford House which stood in Bloomsbury-square, and which was pulled down at the beginning of the present century), and was enclosed with a brick wall extending northward nearly to the site of what is now Covent-garden Market. In Knight's "London" it is said that "in March, 1552, a patent was granted to John Russell, Esq. of Bedford, of the gift of the Convent-garden, lying in the parish of St. Martin-in-the-fields, with seven acres called Long-acre, of the yearly value of 6*l.* 6*s.* 8*d.*, parcel of the possessions of the late Duke of Somerset. This was a modest slice of the church lands the duke had obtained possession of."

tation one court or quadrangle only is described; beyond it, there was to be another court "of the same square and height." The sides of the latter were to contain privy lodgings, and the end was for privy galleries,—"whereof," according to Bacon's description, "you must foresee that one of them be for an infirmary, if any special person should be sick, with chambers, &c." This infirmary was to be placed upon the second story; the first or ground story was to be entirely open, the superstructure being supported upon pillars; and the third story was all to be an open gallery, in which to enjoy the air and the garden prospect. The offices and dependencies were to stand at a distance, and to be connected with the main building by means of covered passages.

We have given the projected house of an English architect who flourished at the close of the sixteenth century, and who practised in France as well as England; we subjoin the plan of an hôtel built by Philibert de l'Orme for himself (fig. 3). It is situated in the Rue de la Cerisaie,* Paris, and the original of the plan we publish was made in 1837 by the late M. Vaudoyer, who presented a copy of it to the Institute of British Architects. The library is at B, the *salon* at S, and the dining-room at H. At C is a "study"; G, G are called "*galeries*," and V is the vestibule. Both figs. 2 and 3 were novelties to the subjects of Henri III. and Elizabeth.

The imperfect description left by Vitruvius, in his first and sixth books, was eagerly spelt by house-owners and house-architects during the era of the Reformation. The Classical origin of Bacon's "perfect palace" is apparent. Modern domestic servants, and whole families of the squalid poor, have probably to thank Palladio for the underground story in which a great part of their lives is spent. In the second chapter of his second book he says: "Cellars, wood-houses, pantries, kitchens, servants' halls, laundries, and other offices which are continually used, should be placed in the lower part of the building." He admits that he commonly ordered them a little underground. "Those who know," says Palladio, "how hard it is to introduce a new way, particularly into the art of building, in which every one presumes to be knowing, will think me very happy that I have met with persons who were generous and judicious enough to approve my reasons." Nor was he undeserving of their confidence, or unmindful of his clients' interest, regarded in a business point of view. Describing a palace he erected at Vicenza, near the market-place, for Count Octaviano de Thieri, he says that, as an architect should always have an eye to the advantage of those who employ him, he left room for shops on the side of the building which faced the market. Every shop had a half-story over it for the use of the shopkeeper; and the count's rooms were necessarily above. It was not till a century after the death of Palladio, which occurred in 1580, that shops with half-stories over them began to rise in Paris. The Place Royale, built by Henri IV., is devoid of any; and in the designs of the "Place de France," ordered by that king, no trace of an "entresol" is to be seen.

A less pretentious scheme for a house than that projected by Bacon is to be found in Dr. Andrew Borde's directions, printed about the middle of the sixteenth century. Starting as a sanitary reformer, and warning people not to apply chimney-corners to other than their legitimate uses, he advises them not to allow "clean air" to get "putrified," and also to keep kitchens and offices scrupulously clean. With him, as with all the writers and practitioners of his time, the Hall is a most important, if not the most important feature. He would so arrange the building as to place the parlour at the head of the Hall and the buttery at the opposite end of it. The kitchen would then be beyond the buttery; the pastry-house and the larder-house would be annexed to the kitchen. "Then," to use his words, "divide the lodgings by the circuit of the quadrangle court, and let the gate-house be opposite or against the Hall-door (not directly) but the Hall-door standing abase and the gate-house in middle of the front entering into the court." None of these writers conceive a large house to be complete without a privy chapel; and Andrew Borde would annex it to the "great chamber of state," so as to allow that and other chambers to have a prospect into the chapel. The terms "Hall" and "Chamber," implying in earlier times two distinct things, got to be used indiscriminately, and at the present day the hall is a passage or an ante-room next to the house-door. Dr. Borde's ideas are partly realised in the plan of a building designed by Thorpe, and preserved in his sketch-book.* The few references upon it are in the architect's handwriting; and from the regular arrangement of the walls and windows we presume the building to be an entirely new one, rather than an old one altered. It must be admitted, however, that there is little in Thorpe's Sketch-book to aid the inquirer in a search after identity or even for proofs of authenticity.

The Hôtel d'Ecoville, at Caen, is one of the most justly celebrated domestic buildings of the Renaissance; even in ruin and debasement the vestiges of its original beauty which remain attest what it once was. Founded in 1538, by Nicolas de Valois, Seigneur d'Ecoville, there is no doubt, both from its refined arrangement and studiously rectangular shape, that it was carefully designed and erected without intermission or subsequent addition. M. C. Sauvageot has published a plan of the hôtel as he presumes it to have been in the sixteenth century, and he has "restored" its exterior in a series of elevations which accord neither with the plan nor with each other. Indeed, the whole monography, like many others in the book,† is a clever "restoration," founded, as such things often are, upon the learned ingenuity of the restorer. At the same time, the position of the walls is doubtless correct, though that of many of the doors and windows is uncertain. We reproduce the plan in fig. 5. There was no habitable story below the ground-floor rooms; there were merely cellars, and our impression is that the kitchen and offices were situated in the parts B, B, C. There probably existed a means of communication between B and B,—perhaps across the entrance-passage or *porte-cochère*, A. The portion devoted to horses, carts, or perhaps a coach, is at D and E. On the opposite side, the great Hall has a summer parlour, perhaps at M, and a winter parlour at K. Or was K the kitchen? It will be observed in the plan (fig. 5) that the entrance-lobby at the top of the steps is entirely open to the external air, without doors or windows; and that some of the presumed offices are similarly constructed. There is a large cupola over the staircase, S; that on the opposite side of the quadrangle rises in the form of a small tower, and it is crowned with a conical roof.

No one has explained with more lucidity than M. Viollet-le-Duc the transformation of parts of a Mediæval castle into the signorial residence of the Renaissance; and nowhere are there so many and valuable artistic monuments of that age as in France. The great work of unknown genius,—the Château de Chambord,—may be a parody upon the feudal stronghold of the thirteenth and fourteenth centuries, but men of all shades of faith in architectural matters admit it to be a marvellous building. A glance at its plan suffices to reveal the difficult and illogical programme which the reformer of the day set himself to accomplish. The huge Hall of the Middle Ages, the extensive but narrow Gallery of the fifteenth century, no longer responded to ideas of household comfort and privacy. Separate rooms, each with its fireplace and a small retiring-room, or *cabinet*, were required; but in the haste to be rid of a Common Hall or a Gallery the means of approach to one room without passing through another were overlooked. To build rectangular rooms in circular towers was a problem which was solved at Chambord by the waste of materials and necessarily of space. The architect, whoever he was, had been bred amidst Gothic traditions, and like Philibert de l'Orme, dressed the Mediæval carcass in a Classical garb. The latter, a diligent exponent of Vitruvius, could hardly fail to supply his countrymen with many things in their new houses they did not want, and to omit many things which they did want.

The prevailing affectation could not escape the eye of Rabelais. His description of the Abbaye des Thelemites and the Manoir des Thelemites is a pungent satire upon the ambitious extravagance to which a little knowledge had brought his wealthier countrymen. The abbey was hexagonal, and at each angle was a round tower sixty paces in diameter. Between each tower there was a length of 312 paces, and the whole rose to a height of five stories above the cellars. There were 9,332 chambers, each with an "*arrière-chambre*" and a "*cabinet*"; each with a chapel and an exit into the great Hall. The manor-house was not less magnificent; it formed the four sides of a court, in the middle of which was a fountain. On the ground-story, columns and antique arches supported the building; and within these were fine galleries, long and ample, adorned with paintings, with the horns of stags, unicorns, rhinoceroses, and hippopotamuses, with elephants' teeth and other curious things. In front of that portion of the house devoted exclusively to the ladies were placed the circus, the hippodrome, the theatre, and the baths. All the rooms were hung with tapestry of different kinds, according to the season; and the floor-pavement was covered with green cloth. The beds and their hangings were embroidered. In each "*arrière chambre*" was a mirror of crystal in a gold frame, studded with pearls; and it was of such a size that the whole person could be reflected within it. At the exit of the ladies' apartments were stationed perfumers and hair-dressers, through whose hands male visitors were compelled to pass before being admitted to an audience. Every morning the hair-dressers placed in the ladies' chambers rose-water, "orange-flower," and all sorts of perfumery. We make no excuse for seeking in a satire rather than in a chronicle of the time some evidence of indoor manners. That everywhere was evinced a desire for what are now called home comforts, for larger lights and windows that would shut or open, for doors and partitions, for panelled coverings to the once painted walls, is certain. The manner in which windows were added to the round towers of a fortified castle has been happily illustrated by M. Viollet-le-Duc;* and no better answer to those fanatics of to-day who would leave an old building to crumble uselessly to ruin—simply because its parts represent pages of history—can be found than in the sensible practice of the French during the great age of vigorous reform.

The old manners "in Hall" had not, however, died out in the time of Elizabeth. It may be assumed, from an examination of Shakspearian comedy, that the Hall was still the common dining-room, the place for masks and revels; and that it was still furnished and decorated as occasion required. Take, for instance, the opening of the second scene in the second act of "Romeo and Juliet." It is a Hall in Capulet's house; musicians are waiting to begin the revels, while servants are clearing away after the banquet which has just been concluded. "Where is Potman," cries a servant, "that he help not to take away? He shift a trencher! He scrape a trencher! . . . . Away with the *joint-stools*, remove the *court-cupboard*, look to the plate." Soon after these words are spoken, Capulet, accompanied by the guests, maskers, and others, enters the Hall. His words are:—

> "Come, musicians, play;
> A Hall! a Hall! Give room and foot it, girls.
> More light, ye knaves; and turn the tables up,
> And quench the fire, the room is grown too hot."

A passage in "Timon of Athens" refers to the banquets of Shakspeare's time, and to the custom for each guest to bring his own knife. *Apemantus* says:—

> "I wonder men dare trust themselves with men:
> Methinks they should invite them without knives,
> Good for their meat and safer for their lives.
> There's much example for 't; the fellow that
> Sits next him now, parts bread with him, and pledges
> The breath of him in a divided draught,
> Is the readiest man to kill him."

Though "arras" hangings were common enough in large houses,—witness the murder of *Polonius*,—there are few records of the use of carpets. Particular mention is made of certain "Turkey carpets" in the will of Lady Isabella Gresham, who, we think, was Sir Thomas Gresham's aunt. The old fashion of strewing the floor with rushes seems to have continued even among the great. *Iachimo*, in *Imogen's* chamber, says:—

> "Our Tarquin thus
> Did softly press the rushes."

Again, in "The Rape of Lucrece":—

> "By the light he spies,
> Lucretia's glove, wherein her needle sticks,
> He takes it from the rushes where it lies."

It may, however, be urged that the description of *Imogen's* bedroom belies the possibility of the floor being strewn with rushes. Her chamber,—

> "It was hang'd
> With tapestry of silk and silver; the story,
> Proud Cleopatra. . . . . A piece of work
> So bravely done, so rich, that it did strive
> In workmanship and value."

* We published at p. 730, *ante*, a description of the present condition of this house from a French correspondent.

* Sketch No. 72.

† "Palais, Châteaux, Hôtels, et Maisons de France."

* "Dictionnaire de l'Architecture Française": Château, pp. 188, 189.

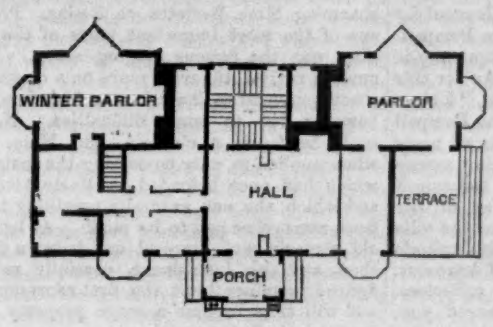


FIG 1.

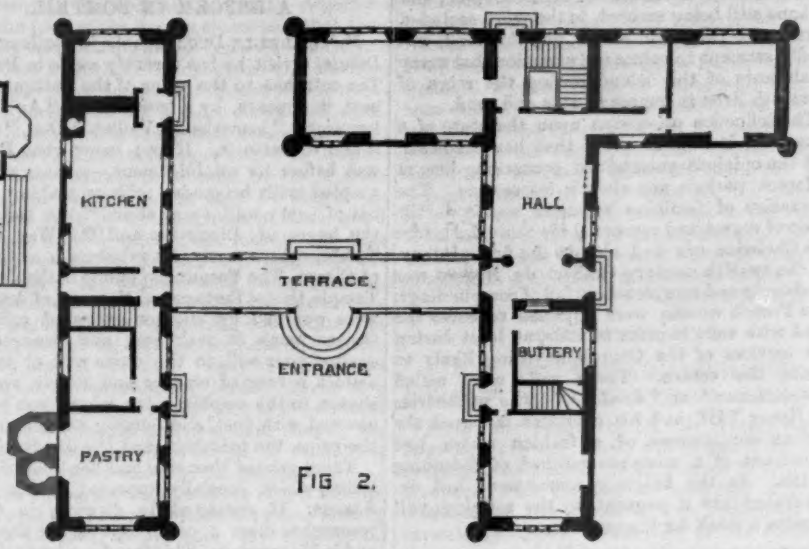


FIG 2.

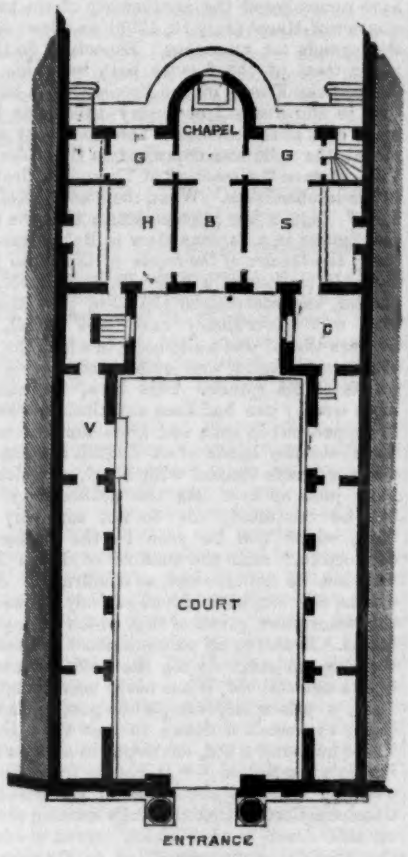


FIG 3.

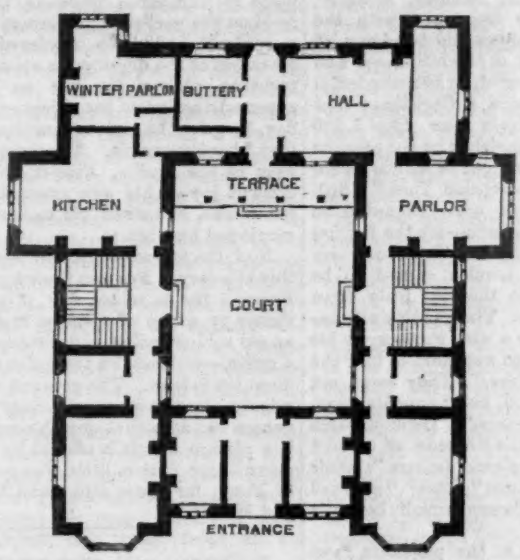


FIG 4.

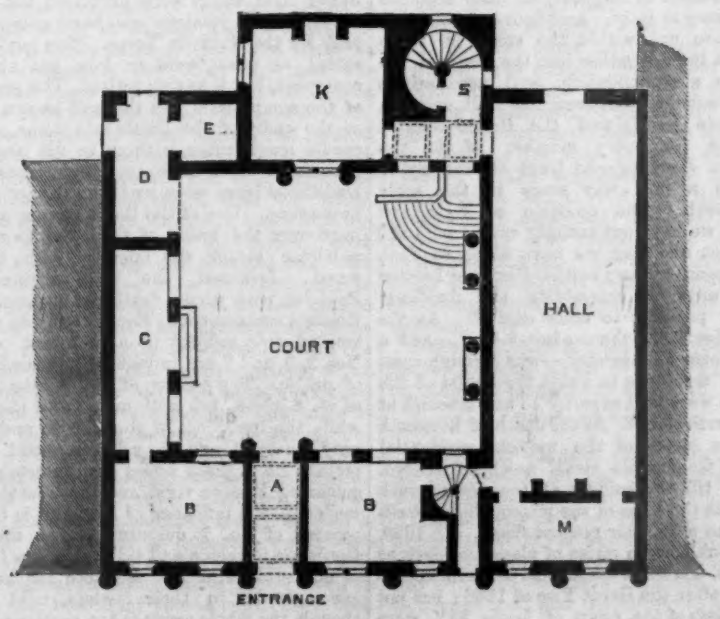


FIG 5.

> "The chimney
> Is south the chamber; and the chimney-piece
> Chaste Dian, bathing."
>
> "The roof o' the chamber
> With golden cherubims is fretted: Her andirons
> (I had forgot them) were two winking Cupids
> of silver, each on one foot standing, nicely
> Depending on their brands."

Nevertheless, the rushes, like other old customs, lingered,—as the sand still strewn in a fashionable Paris "restaurant" was similarly used by the Romans in their dining-rooms. Straw also was not only often spread in Halls and Chambers, but even in the time of Henry VIII. certain persons were deputed every night to examine the "the straw of the king's bed." Indeed, Shakspeare is thought by many to have invoked so little of the poet's licence in the lines,—

> "Imperious Cæsar, dead and turn'd to clay,
> Might stop a hole to turn the wind away,"

as to have derived the illustration from some of the houses he had seen built in country places. A "description of England" in 1577 contains the following passage:—"In the fenny countries and northern parts, unto this day *for lack of wood* they are enforced to continue the ancient manner of building (houses set up with a few posts and many raddles), so in the open and champain countries they are enforced, for want of stuff, to use no studs at all, but only frank-posts and such principals with here and there a girding whereunto they fasten their splints or raddles, and then cast it all over with thick clay to keep out the wind." Any one who has

Fig. 1. Wooden house by Thorpe.
„ 2. Thorpe's design for his own house.
„ 3. Philibert de l'Orme's house, built by and for himself.
Fig. 4. House by Thorpe.
„ 5. Hôtel d'Ecoville, Caen.
Scale of plans: 32nd of a foot to an inch.

examined some of the houses still occupied, and perhaps still being erected, in the more secluded districts of Cornwall, Wales, and Scotland, will hardly attempt to refute the assertion that many inhabitants of this island during the reign of Elizabeth lived in houses of clay and mud.

The influence of woman upon the state of a household is now so great that her condition, and the opinions entertained concerning her, at different periods are always interesting. The relaxation of feminine manners was a fertile topic of regret and reproof three centuries before the Christian era and also in the first century. In the twelfth century Guibert de Nogent was studiously and conspicuously full of complainings. The French women were enjoined to cover the head with veils in order to hide, at least during the services of the Church, anything likely to excite the senses. These veils were called "*dominicaux*" or "*dominos*." The gallantries of Henry VIII. and his courtiers favoured the vicious continuance of a fashion which had grown out of a mistaken method of defending virtue. As the knightly tournament had degenerated into a pageant, so the religious veil became a mask for the reveller,—

"Those happy masks that kiss fair ladies' brows."

In Shakspeare's time the ladies of Venice wore long veils when they walked abroad; and their veils, especially at church, often reached to the ground. Venetian fashions, however, were largely swayed by commerce with the Levant. James Howel, comparing London with Venice, says, rather finely of the latter:—"She hath many things to glory of, as her wonderful situation, that she was born a Christian; that she hath continued a virgin near upon 1,300 years, having never been ravished by the assaults of any enemy, though some out of malice would make her concubine to the Grand Turk." Still Italy—and the Venetians were regarded as eccentric beings by the Italians—set the fashion to both France and England. The fan which fine ladies, in Paris and London, caused to be carried after them, came through Italy from remoter and hotter climes. Their pretty affectations gave Philip Stubbes a wide subject for his "Abuses." To him women appeared to be "the smallest part of themselves." They were not natural, not flesh and blood, but "puppets, rags, and clowtes compact together." He deprecates their vain gestures and the "coynes of women in the middest of their pecok fethers"; their fingers "clogged with rings"; their "sweeted gloves"; their looking-glasses which he calls "the devill's spectacles."

The machinery of some of the pageants, then much in repute about the court, and among courtiers, was confided to the management of Inigo Jones, who returned to England after a visit to Italy and a mission to Denmark in 1605. The influence that Palladio exerted over the arts of Western Europe,—that Philibert de l'Orme exerted over France,—Inigo Jones may be said to have possessed in England, at least after his second journey to Italy. Architectural polemics, however, are not within the scope of these papers; we inquire rather into the shape of the house, the accommodation, and peculiarities of the household. Between the Hall common to the whole family and the House divided into rooms for every member of it, the Elizabethan dwelling,—at least of the upper classes,—is a half-way stage in the scale of refinement. The question of style and adornment we have put entirely aside; with the arrangement and plan we have alone to deal. In the sixteenth century neither Paris nor London possessed anything resembling the dwelling-house now peculiar to each capital. At the death of Henri IV. the *maison-à-loyer*,—and a primitive form then existed,—was a rough combination of dwellings in which the habits of life in common were still superior to any attempt at privacy or retirement. At the death of Elizabeth the private house of the modern residential square and fashionable street nowhere existed. It was not till the middle of the seventeenth century that the lines of the metropolitan dwelling began to take their present shape. In 1633, Le Muet published a series of plans and designs which were, doubtless much used and well known in London after the Great Fire of 1666; but not until the close of the reign of Louis XIV. were the domestic building traditions of Western Europe generally obliterated in France and England,—a vestige remaining here and there, in obscure corners of both countries, to support at a later day the blind guesses and erratic zeal of a second and shorter period of revival.

A REFORM IN POMPEII.

M. Viollet-le-Duc recounts, in the *Journal des Débats*, a visit he has recently made to Pompeii. The entrance to the ruins of the antique city is now, it appears, by a *tourniquet*. "As for this *tourniquet*," remarks M. Viollet-le-Duc, "I bless it and venerate it. If you knew what Pompeii was before its establishment,—a mass of nests peopled with brigands; robbers making money out of every wall, every stone. Some had seized the house of Diomedes and the Way of the Tombs, others received a retribution at the villa of Cicero. The Forum, the public baths, Jupiter's Temple, that of Fortune and Mercury, of Augustus, were guarded by another group of collectors. Others came to seek you, and dragged you, against your will, to the other end of the city, amidst a heap of cinders and *débris*, and with shouts, to the amphitheatre, where you arrived, covered with dust, and cursing the monuments, the ruins, the paintings, and the discoveries.

There existed then also another kind of speculation, which specially appealed to the Anglo-Saxons. It consisted in digging, in making researches *scavi a posta*, that is, for the visitor and in his presence. This fraud was long tolerated. A boy would hide under the ashes a false bronze or terra-cotta, which a companion would soon rake out, to the joy of the ignorant stranger. I was fortunate enough once to be witness of a piece of admirable patience and heroic *sang froid* on the part of a gentleman to whom such a homage had been rendered. During the operation of the digging, he awaited with imperturbable phlegm (he was an Englishman, it appears), then when the object sought for saw the day, he gave the zealous searcher the finest kick that I have ever seen. The young *birbante* rolled over in the *lapillo*, amidst the laughter and cries of joy of his own comrades. As for the gentleman, he turned his back on the scene and continued his visit.

Now, the *tourniquet* guarantees one against all this thievery. For two francs you are master of Pompeii for a whole day if you like. Each visitor or group of visitors is accompanied by an old soldier, polite and discreet, who serves as a guide,—at least, for the order to follow and the direction to take. The greatest silence, the most minute cleanliness reigns everywhere, and each person can admire at ease the curious and charming picture which is offered by Pompeii and its magnificent frame, little changed since the time of Pliny, for there still stand Vesuvius, Capræ, and Misena."

"ICI ON PARLE FRANÇAIS."

Although Paris at present is said to be empty, it is curious to remark how large a number of persons attended last week, notwithstanding the heat, the *concours* of the Conservatoire of Music, as also what a crowd on Wednesday, the 25th ult., filled the rooms of the École des Beaux Arts, where were exhibited the pictures of the young painters who have competed this year for the Prix de Rome. Ten pupils of the school, as usual, went *en loge*, but nine alone competed, No. 9 having retired. The programme of the competition was the well-known incident of the entry of the Gauls into Rome, when the curule magistrates, wishing to die bearing the insignia of their office, seat themselves in their traditional ivory *sellæ*, awaiting the arrival of the barbarians. One of the Gauls having passed his hand over the beard of the aged Papirius, the patrician struck the offender with his ivory wand. Irritated, the Gaul instantly kills Papirius, with whose death the massacre of the Romans commenced. Each artist has naturally treated this subject in a different way, but Nos. 2, 5, and 7 are undoubtedly the most worthy of praise. The painter of No. 2, who is a pupil of M. Gérôme, has well understood the subject, while the treatment of the figures and the drapery is careful, and the colouring solid. Of the picture No. 5 great hopes are entertained; the colouring is more vivid, and the treatment more modern,—the influence of Regnault is felt. The painter of No. 7 deserves praise, though his Gauls are too clean and tidy: this is a fault that is not evident in No. 4, where the barbarians are splendid in their lawless, wild bearing, though the whole scene is too vigorous. Of the others much might be said: all show talent, and this year's exhibition is considered to be highly satisfactory.

Within the last few days the artistic world has been delighted with a revival of Beaumarchais's immortal "Barbier de Seville," at the Théâtre Français, with the inimitable Coquelin as *Figaro*, Febvre as *Almaviva*, and the charming Mme. Barretta as *Rosine*. Probably one of the most important parts of the whole play was the famous singing-lesson. In the modern revival *Almaviva* plays on a clavecin the accompaniment to *Rosine's* air. This innovation however, led to some difficulties. Nowhere could be found a clavecin, and Mme. Erard, when applied to, only possessing the instrument which had once belonged to Marie Attoinette, and which she was naturally unwilling to lend, fresh researches had to be made. At length an old clavecin was dragged out from a dealer's shop, and this instrument, carefully repaired, figured prominently at the first representation, and will thus become a stage property of the first theatre in the world.

The anniversary of the taking of the Bastille, some days back, furnished to most of the Paris journals a host of anecdotes; but few seem to have remembered the anniversary of the assassination of Marat (July 13, 1793), on whose death the legends are numerous. Especially do these latter treat of the famous bath in which was stabbed the Friend of the People. It is known that in the funeral ceremony this same bath made part of the cortége. The interment completed, the relic was deposited in the Hôtel de Ville, whence the reaction of Thermidor drove it to the lumber-room. What, then, became of the bath? Not a few persons affirm that the relic that figures in a famous show in Baker-street is really the *theatre of the crime* of Charlotte Corday. It is generally believed, and David, the painter, has encouraged the idea, that Marat's bath was an ordinary one. Not at all. It appears that it was a sitz-bath, in which the *conventionnel*, seated, was quietly correcting the proofs of his speech. This bath, for which a more worthy one had been substituted, was not in copper, but in lead, and after the Thermidor came into the hands of an English collector, as also the proofs stained with blood, of which we have just spoken. As the authenticity cannot be contested, we do not see why the bath, which can be seen in the "Chamber of Horrors," near the scaffold of Louis XVI., may not be the true one, as is affirmed. At all events, this sitz-bath of lead entirely answers to the description given of that which belonged to Marat. Notice to all painters about to treat this thrilling subject. As for the knife with which Marat was stabbed, it has never been found. In 1843, a prison inspector, while passing through Caen, expressed a desire to visit the archives. There he found a box, enveloped in a paper bearing this inscription:—"It results from the perquisition made at the house of the parents of Charlotte Corday that the knife wanting to make up this dozen is that which served to execute the horrible crime committed on the person of the illustrious citizen Marat." The box was opened, and there were found eleven handsome knives, with horn handles, pierced with six holes garnished with silver. The blade was narrow, much like an Italian stiletto. On the back was a plate of chiselled silver. The whole denoted English work of the last century. It is, then, certain that the knife with which Marat was stabbed was like the eleven found at Caen, where now only three remain. By some extraordinary coincidence the eight others are in the possession of a sculptor, M. Vasselot; and at a dinner given by him some years back, the eight knives figured on the table by the side of as many plates dating also from the time of the first Revolution.

On the 16th ult. the fourth exhibition of the works of art acquired or commanded by the city of Paris, was opened in the *Salle Melpomène*, at the École des Beaux-Arts. This exhibition comprises numerous works commanded or purchased at the *Salon*, together with some old pictures restored since last year. The catalogue is divided into five parts. This year's exhibition is particularly rich in religious subjects, and no less than twenty-six pictures are destined for the churches of Paris and the department of the Seine. Among these there are several that were exposed in the *Salon*; let us mention some sketches for mural decoration for the church of the Sorbonne, by Timbal, as also the six restored pictures by Lebrun, Restout, Natoire, De Troy, and Abel de Pujol. Of the twenty-four pieces of statuary, four alone are destined for religious purposes. The others are to adorn the public squares and gardens of Paris, the Palais de Justice, &c. There is among this number a bust of Mdme. de Sévigné, which is to be placed in the house she once occupied, and where now the municipal

library is situated. The bust is not satisfactory, unhappily. There is a bronze by the late lamented Perraud, which is to ornament some public square, as also several medals and engravings, none of which surpass the ordinary standard of excellence. Indeed, as a whole, the exhibition is far from satisfactory. It may be remarked as a somewhat curious coincidence that the exhibition takes place in the room in which are usually exposed the copies of the *chefs-d'œuvre* of the greatest Dutch, Italian, and Spanish masters, but these works have been covered up, and over them have been hung the modern productions of France's rising generation, so liberally patronised by the State and the municipality.

M. Emile de Girardin, the eminent writer, is at the present moment much occupied. Not content with daily directing in his journal the Republican campaign, the famous publicist finds time to sit two hours a day for his bust, or rather busts, for M. Girardin is at present in the hands of two very different artists, Mdlle. Sarah Bernhardt, the well-known *sociétaire* of the French comedy, and Mdlle. Jeanne Andrée. Each has her sittings. The Mondays, Wednesdays, and Fridays belong to Mdlle. Sarah Bernhardt; the Tuesdays, Thursdays, and Saturdays to Mdlle. Jeanne Andrée.

WANDERINGS AND QUESTIONINGS IN ARCHITECTURE AND ART.

INSCRIPTIONS AS A MURAL DECORATION.*

The expression of approval of my general views on the above subject, with the remarks which accompanied it, which appeared in the *Builder* of the 14th inst., induces me to a brief return to one or two important points therein, which seem to need further elucidation or support.

I am not surprised at the exception taken to my suggestion of Greek and Hebrew passages; for I had a consciousness while penning it that I was laying myself open to criticism. But I did not mean to suggest such inscriptions for any but great ecclesiastical and scholastic edifices; and in those cases supplemented by translations in the vernacular. And it was not from any disregard for the mental or moral culture of the class to whom Greek and Hebrew passages would be unintelligible, nor from any idea of the insufficiency of the English language for the purpose, that I offered the suggestion. I believe the language which was found sufficient for "Othello" and "Hamlet," and "Paradise Lost," is equal to the full expression of any idea or emotion whatever; and I think Dr. Johnson's objecting to write an English eulogium on Goldsmith, an English poet, for Westminster Abbey, one of the absurdest acts of his life. I suggested the application of Greek and Hebrew passages partly from an impression of the greater prestige that attaches to the original text of the Bible, and to the sacred languages in which it is embodied, which may well be considered as the literary and sacred property of each Christian nation; and I cannot but think it a rational object of desire to see a great Christian temple illuminated with passages from the sacred writings in the actual words in which they were delivered to mankind, —which must be more correct and forcible than any translation of them. To these, from their being more direct from the pens of the inspired writers, more sacred associations must attach; and I should still recommend a Greek inscription for the frieze of St. Paul's Cathedral, from the writings of St. Paul himself, illustrative of the spirit and genius of Christianity as being, independently of the greater beauty of the characters, intrinsically a more illustrious ornament and more worthy appliance than any translation could be.

I was partly led to the suggestion also from a feeling of the unpicturesqueness of our alphabetic characters compared with the Greek, Hebrew, Arabic, and other Oriental ones; and I think it cannot but be deemed a matter of regret that those symbols of thought we call letters, which present so vividly to the mind what no chiaroscuro or colour,—marble or bronze,—could represent, which lay bare the heart and mind of man to their inmost recesses, and delineate the tenderest and loftiest feelings of our nature, should be so unfit for association with objects of ornamental art; and that what has such power to delight the heart should have so little to please the eye. This is a great bar to the adoption of inscriptions as a mural decoration. Some Mediæval alphabets are more picturesque; but they are so great a departure from the form of the Roman characters that they are unintelligible to general readers. What are called Old English, or black-letter, and German text might be excepted. But the purpose in question requires, I think, a more curvilinear, symmetrical letter, like the Greek small character, than which I know none more suited to the purpose. The Hebrew is squarer, but it is more picturesque than ours. It may be that I am somewhat beguiled by association of ideas, but I have seen Hebrew and Greek inscriptions that seem as pleasing to the eye as if they were designed solely for architectural embellishment. Inscriptions on Roman monuments, on the contrary, might serve as a warning against inscriptions altogether as an architectural adornment, for they are not adorning. They have generally a disfiguring, disenchanting look wherever they appear. But the general adoption of this element of decoration would probably soon remedy the evil, by promoting the design of alphabetic characters exactly suited to the purpose.

If the visible form and manner of the inscriptions could be rendered satisfactory and worthy of their purpose, I am sure the intellectual matter of them could be; and the sources from which they would be drawn would be all but infinite, including the utterances of the very highest, the divinest of the arts—poetry—that art which appeals directly to the soul, which of all the arts has the greatest power over it, and which itself is the expression of the deepest and sublimest principle of our nature. But suitable inscriptive matter would be yielded from every department of the wide realm of literature—philosophy, history, rhetoric, romance, biography, divinity (including the Scriptures), a fountain that is ever replenishing, and can never become exhausted, so that every new building might have a fresh utterance, and open a new chapter of the volume of wisdom.

Inscriptive matter should be directed, in the first place, to the expression of the proper character of the edifice it adorns, so as to excite ideas or emotions in harmony with the building's purpose, and the increase of its æsthetic and intellectual power. There would be no danger of repetition or monotony; for in the immense variety of classes of structure into which architectural works are divided, in respect of use or destination,—Ecclesiastical, scholastic, palatial, domestic, commercial, forensic, political, auditory, gallery (museums and exhibition rooms), theatrical, literary (libraries), &c.,—there would be the fullest scope for every variety of poetic or literary subject, till gems from all the caskets of genius,—all the productions of the understanding and the imagination through the medium of the pen, would find their frieze, or panel, or other fitting place. The scheme duly carried out would render the architecture of a great town a library or encyclopædia of knowledge.

Besides its architectural object as decoration, would be the inculcation of important truths on the public mind, to furnish a light to the feet and a lamp to the paths of those who could not be well reached in any other way, and who might with some reason complain that no man cared for their moral welfare. It might be made, I believe, a powerful moral engine, and levelled at some of the prevailing vices of the age with good result,—a mightier one even, from its greater flexibility and range, than that which Hogarth discovered in his pencil, and which has done so much honour to his name. Such engines none will say are uncalled for. We have a check to one vice,—drunkenness,—in teetotalism, and a more solemn protest against it in Good Templarism; but drunkenness is not the only vice that cries for check. There are lying and dishonesty, for example, which, if not so destructive to the body, are equally polluting to the soul, and there are passages that could be selected from the Proverbs of Solomon, and from the Psalms (a celestial fountain, teaching, as Hooker expresses it, heroically magnanimity, exquisite justice, grave moderation, exact wisdom, &c.), which, had they been published in stone, in the manner in question, would have been a spiritual sword to slay such vices. Who knows, had architectural inscriptions been in general use, how many youths might have been arrested by some handwriting on the wall in the slippery or morally downward paths which so abound in a great city,—in how many it might have caused the mental monitor to wake up for ever?

It will be admitted, I think, by Mr. Buckle, that so far from discomposing history, or obliterating evidence which constitutes a building an historic record, such inscriptions would render it more luminous as an historic record. With the notable Rosetta stone in remembrance I should urge in favour of the scheme in reference more particularly to inscriptions in two languages—the vernacular and the sacred—that it might be the means, in some distant age, of saving our language from oblivion, but that I cannot conceive it possible for the English language, since printing has come to the rescue of letters, to perish. It might, however, be the means of preserving a purer form of that language than will exist a millennium hence.

Samuel Huggins.

* See p. 641, *ante*.

THE PRUDENTIAL ASSURANCE COMPANY'S NEW BUILDINGS, HOLBORN.

From the designs of Mr. A. Waterhouse, a large new building, which will be one of the most prominent in Holborn, is at present in course of erection. The building in question, which is intended for the offices of the Prudential Assurance Company, is situated at the corner of Brooke-street, in Holborn, and will occupy an area of about 30,000 ft., or two-thirds of an acre in extent. One of its distinguishing features is the unusual depth which it is carried in a northerly direction, along Brooke-street, and to Greville-street, from Holborn, its extreme depth from the Holborn frontage to its northern boundary in Greville-street being about 360 ft. In clearing the site for the building, a large number of houses, of a dilapidated character, in the neighbourhood of St. Alban's Church, have been taken down, in addition to the premises fronting Holborn, formerly occupied by Messrs. Meeking, the extensive drapers. The Holborn elevation stretches from Brooke-street to Furnival's Inn eastward, and is 82 ft. in length. Although it is the finest architectural feature in the structure externally, the Brooke-street frontage is striking and prominent, owing to its great length, being upwards of 190 ft. long, and absorbing more than half the entire length of the east side of that street. The lower portion of the structure, from the ground line, both as regards the Holborn and the Brooke-street frontages, is in massive red and grey polished granite, this material being used to the top of the first floor. The general character of the Holborn elevation is Gothic, with a central main entrance supported by polished granite columns, and a Gothic arch in the same material, a pediment in red brick and terra cotta surmounting the arch. The frontage is lofty, being 80 ft. in height, and at the west end there is a bold and handsome gable, enclosing a large and elaborate oriel window. Smaller gables, uniform in design with the first-named, surmount the eastern portion of the frontage. The materials used in the two frontages above the ground floor are chiefly large blocks of red terra cotta and red moulded brick. About one half of the Brooke-street frontage is in character with the Holborn elevation, but the other portion to the northern boundary is of simpler design, and not so lofty. We understand that the whole of this extensive building is intended to be devoted to the business of the company, and will be specially fitted up internally for that purpose, containing, in addition to the managers' and other offices, board-rooms, &c., a very large and handsome central hall, elaborately finished, and lighted from above. The works are of an unusually substantial character, the main foundation walls being 6 ft. thick, and iron is largely introduced in columns for the floors and other parts of the building.

Messrs. Holland & Hannen are the contractors for the building, which, it is stated, will involve an outlay of upwards of 200,000*l*.

Proposed Viaduct over Fleet Valley.—At the meeting of the Metropolitan Board of Works on the 27th ult., Mr. Walker moved:—"That the engineer be instructed to report as to the desirability and probable expense of erecting an iron bridge across the Metropolitan Railway adjoining the Sessions-house, Clerkenwell, on a level from Red Lion-street to a corresponding level on the west side of Hatton-wall, the intervening spaces on both sides being maintained by brick arches as at the Holborn Viaduct, so that the new street from Shoreditch to Bloomsbury may be formed throughout as a level road, available for heavy as for light traffic." The motion was negatived.

FROM ORVIETO.

A CORRESPONDENT sends us some information respecting the tombs of Etruria, as follows:—I have been making a careful inspection of the tombs of Etruria, the frescoes in which are now only represented by some fragments, but which, together with the sculptured objects in the museums and private collections in central Italy, are still sufficient to show that much of the Middle Age Ecclesiastical art of this locality is entirely copied from them, only that it is improved and adapted to its special purpose. As the frescoes still remaining, though in many cases carefully guarded, are day by day becoming less distinct, careful accounts of what now exist may be valuable; the devices on the Etruscan pottery being generally more curtailed, or too minute, from want of space, to convey with force the histories which the life-size figures and representations give. I have therefore been taking notes of some of the most interesting. The street, or rather streets, of tombs discovered three years ago close to this city, have no frescoes, but they have points of even greater interest, as they almost settle the question of the land whence their builders emigrated. They correspond minutely in construction with some tombs I lately examined in Lydia, though the constructors may only have been a small colony in this part of Italy. It is remarkable that they differ from the Etruscan tombs in many points.

METROPOLITAN SUBURBAN BUILDING.

SOUTH LONDON.

WHETHER viewed north, east, south, or west, around what may be regarded as the great central business area of the metropolis, suburban London is rapidly extending in every direction, and rural mansions and domains are constantly giving place to the demands of the builder. In no district is this state of building activity more conspicuous than in several places south of the Thames, and amongst others the rural portions of Camberwell, Peckham, Hatcham, and other districts, are rapidly being converted into urban localities.

The mansion and grounds known as the Bushy Hill estate in Camberwell, with an entrance from the Peckham-road, has just been purchased for building upon, and is now being laid out for that purpose. It is about 20 acres in extent, and stretches in a south direction from the Peckham-road boundary, opposite Camden Church, near to the Champion-hill station of the Balham and Mitcham section of the London and Brighton Railway. The old mansion on the estate is now in course of demolition, and with it several of the ornamental plantations in the grounds; but, in laying out the streets many of the choice old trees have been preserved, and will serve to ornament the areas in front of the several high-class residences intended to be built upon the estate. The principal thoroughfare, which is being constructed through the centre of the grounds, is about half a mile in length, and extends from the Peckham-road, by a gradually ascending gradient, until it reaches the southern boundary, on the margin of the railway. This thoroughfare will have a carriage-way about 40 ft. in width, with wide and convenient foot-paths. The estate is being laid out by Mr. W. Adams Murphy, architect, of Camberwell; and Mr. W. Harris is the contractor for the roads and sewers. The houses to be erected on the estate will be about 200 in number, and all of a superior character, being confined to the villa class. The estate immediately adjoining, and containing about the same number of acres as the Bushy Hill estate, is intended to be similarly laid out next year. It is at present in the occupation of Mr. Robert Alexander Gray, J.P., one of the oldest magistrates in Camberwell.

Continuing eastward is the Peckham Park Estate, which is approached by way of Marlborough-road, out of High-street, Peckham. The estate has been laid out in streets at right angles, and building is actively proceeding. Upwards of 100 houses have already been erected, and preparations are being made for the erection of about 200 more. The total number of houses intended to be erected upon the estate is about 800, and a large proportion of them are expected to be completed during the present year. The houses range from 30*l.* to 40*l.* per annum. In laying out the estate the fine avenue of trees at the junction of Marlborough and Goldsmith roads, forming the approach to the park, has been preserved. It may be added that building is likewise proceeding in Goldsmith-road, immediately adjacent. A large block of houses has already been erected there, and it is stated that Goldsmith House, which has an historical interest as a former residence of the poet, and that in which several of his poems are said to have been written, will shortly be swept away to be replaced by more modern dwellings. Very extensive building is likewise in progress in the neighbourhood of Meeting-house-lane, immediately adjoining. The large market-gardens there are being rapidly covered with dwellings, and it is stated that within the last twelve months upwards of 1,000 houses have been erected in the locality.

About half a mile further, on the Hatcham Park Estate, approached from New Cross-gate and Queen's-road, is a scene of busy building. The Haberdashers' Company, who are the owners of this estate, between 90 and 100 acres in extent, will allow nothing but houses of a superior class to be erected upon it, and these are now in progress. Several semi-detached residences have just been built, and a large number of others, uniform in their external and general appearance, are in course of erection. Some of the houses face the New Cross-road, whilst others are built upon the plots on each side of the fine new road, 60 ft. in width, leading up to Telegraph Hill, where the summit of the estate is reached, and from which there is a commanding panoramic view of several parts of the metropolis and surrounding country.

AN ADDRESS TO WORKMEN.

MR. THOMAS HAWKSLEY, C.E., president of the Institution of Mechanical Engineers, presided over the summer meeting of that body, which commenced on the 24th ult., at Bristol. In the course of an interesting address, he said:—

We are at this time diminishing our wealth and the means of supporting our rapidly-increasing population by more than 100,000,000*l.* per annum. And why? Simply because foreign nations will not voluntarily take such sufficient quantity of our goods to enable us to liquidate our constantly-recurring indebtedness to them for the food we involuntarily require at their hands. Again, let me ask why? Simply because we do not manufacture cheaply enough, and to some extent well enough. For the third time, let me ask why? Simply because our labour is too dear,—in respect of price, in respect of the quantity of work performed, and also in respect of the obstructions and restrictions which the modern workman thinks fit to place upon his employment and employer. In all these respects the English capitalist employer,—the workman's best friend,—is placed at a singular and often ruinous disadvantage when he is brought by the exigencies of his business into immediate competition with the foreign capitalist employer, who, although suffering to some extent from the operation of similar interferences, suffers from them in a much milder degree, and to a much smaller extent. The causes of this immense loss to the country,—a loss of such magnitude that it cannot be continued for many years without involving the nation in ruin,—are not difficult to discover or far to seek. We have passed through a period of unnatural and factitious prosperity. The capitalist has, unfortunately for himself and his country, in too rapid a manner duplicated and re-duplicated his wealth, whilst the working man, observing this, and being misinstructed by his popular advisers, themselves utterly ignorant of the first principles of international political economy, has conceived and become thoroughly imbued with three transparently false notions. First, that he is entitled to share in his employer's success in business; secondly, that he has a right, in combination with others, to exact conditions from, and prescribe terms to, his employer; thirdly, that he has a right, in combination with others, to force his employer to yield to his exactions and prescriptions,—exactions and prescriptions which concern not merely himself, but which are so exercised as to control the employer in regard to the manner in which he shall conduct his business, and even in respect of his relations to the general public at home and abroad. Besides this, the workman is induced, by popular misrepresentations, to believe that capital is rather his enemy than his friend, and that he has a perfect right, by unionistic efforts, to crush his employer's trade for union purposes, and so to destroy, in the result, the source of his own livelihood. And, again, the working-man has been, and is still, so mis-taught as to have become firmly convinced that an increase of wages, however enforced, is necessarily a sound and permanent addition to his own means of living, in comfort or otherwise, and only too frequently "otherwise." Owing to these patent mistakes, wages (but not the means of living) have of late years been forced up in an undue manner in this kingdom; whilst, on the other hand, however, production has been relatively as unduly forced down. The trades once monopolised by England, the whilome workshop of the world, have become wholly or partially settled elsewhere; whilst our own working people, still unshaken in their belief in the virtue of strikes, high wages, short hours, and workshop restrictions, are only partially employed, and that too with the certainty staring them in the face that unless they cease to conspire to make goods dear,—the goods they buy as well as those they make,—their opportunities of earning a comfortable livelihood must necessarily become from year to year fewer and fewer, till in the end, when we shall have lost the larger part of our foreign export trade, the struggle for existence will become most painfully and increasingly severe among them, and less and less capable of mitigation. Much observation and long experience have finally brought me to the conclusion that, if the trade of this country is to be saved, and if the British workman is to be secured of his industry and its well-merited fruits, the cost of all commodities, labour included, must be closely assimilated in this kingdom to the cost of like commodities on the Continent of Europe and in America. May man and master open their eyes to this already pressing necessity.

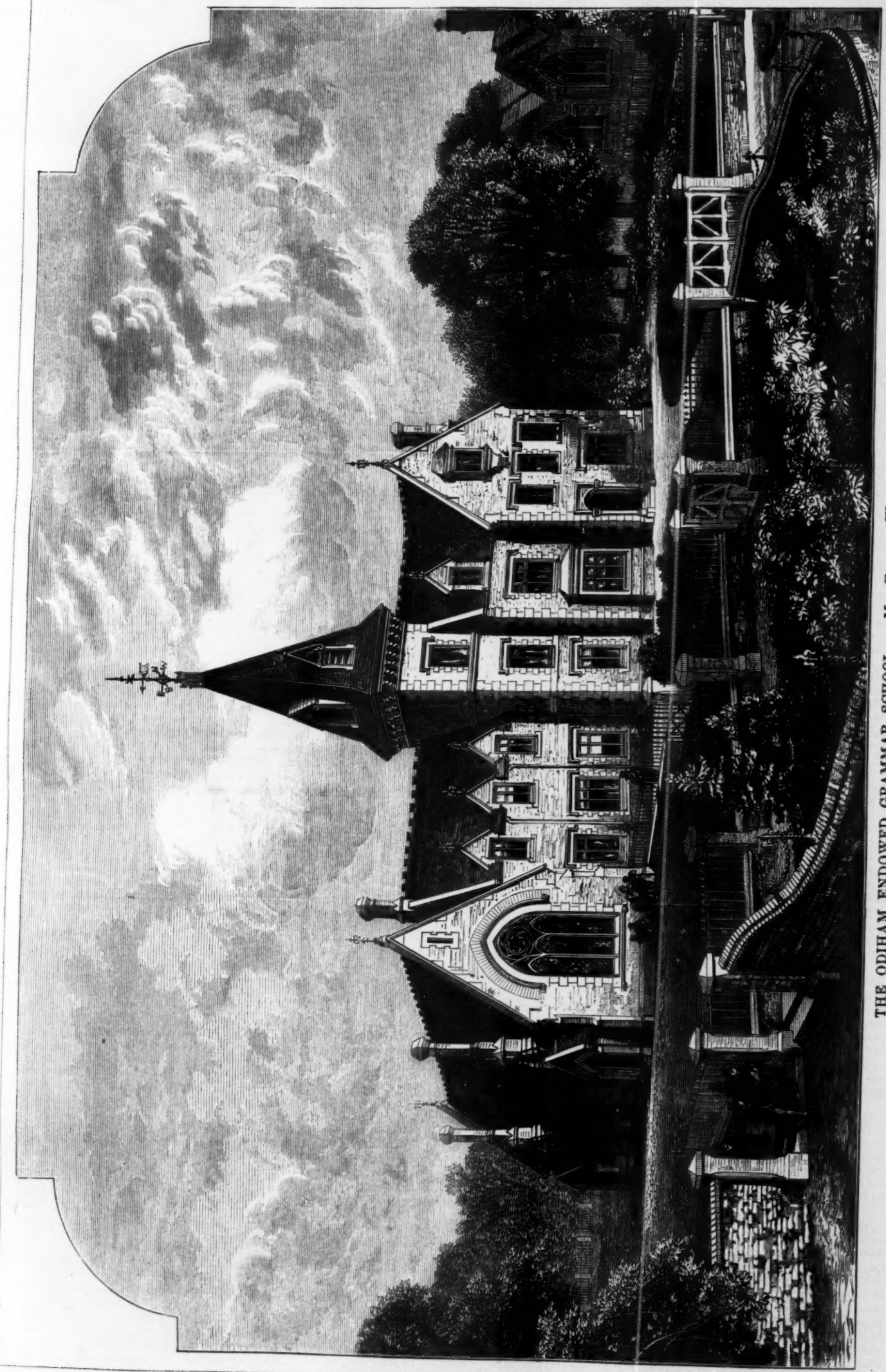
ENDOWED GRAMMAR SCHOOL, ODIHAM

IN accordance with a scheme prepared by the Endowed Schools Commissioners, this school has been rebuilt, and was opened in the autumn of last year under the management of an influential Board of Governors, Mr. Sclater-Booth being chairman.

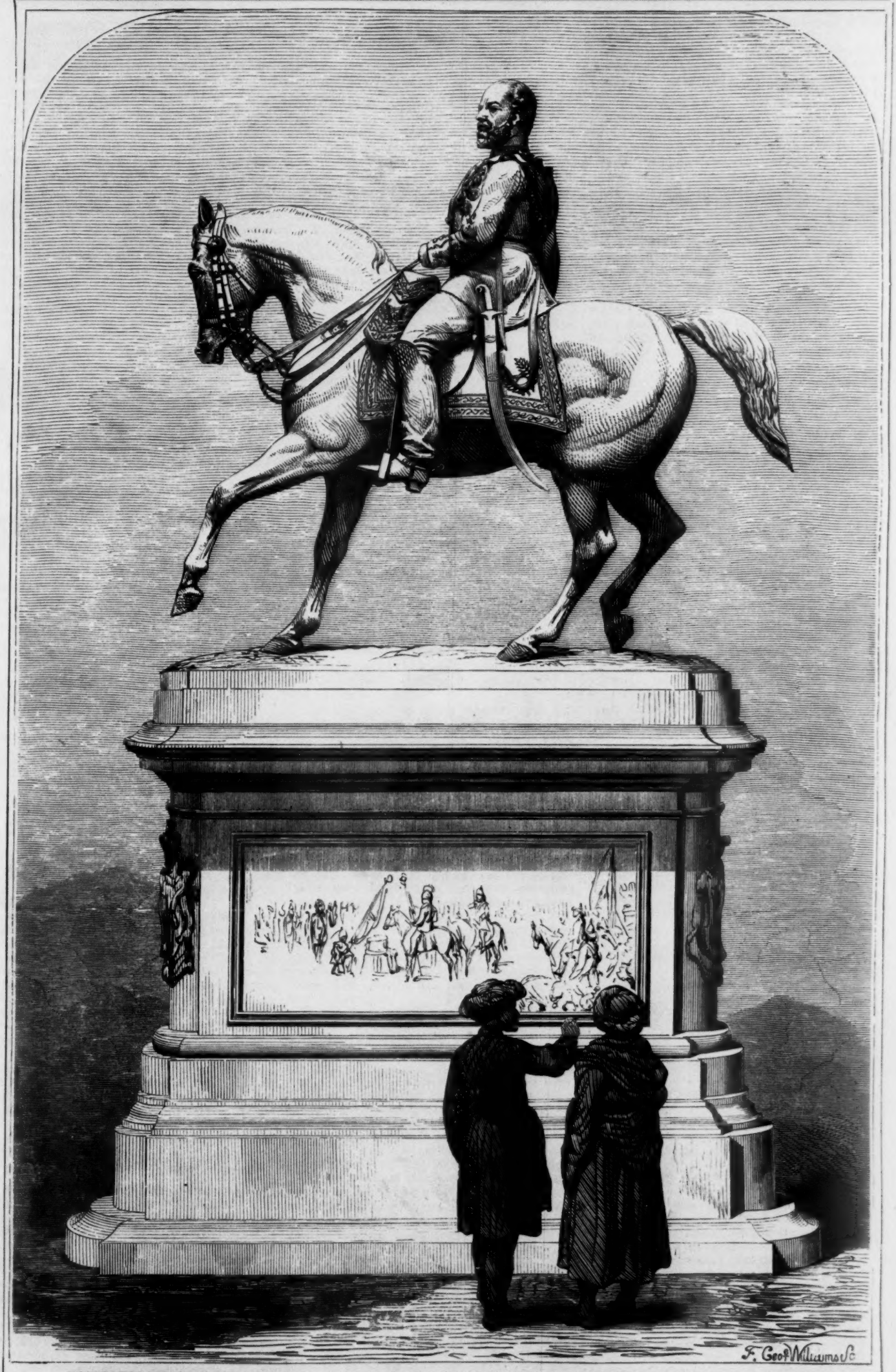
The site is in that portion of the town situate east of the church, and running parallel to the south of the High-street known as "the Bury." The style of the building is that of the Domestic Tudor Gothic, the materials being red brick, pointed black, with Bath stone quoins, gable copings, finials, and door and window dressings. The roof coverings are old tiles, and the spirelet of the turret is surmounted by a gilt vane. The principal school-room, about 55 ft. by 20 ft., with open ribs sustaining the roof, plastered between the principals and purlins, is lighted by large traceried windows in the north and south gables, and two smaller windows to the east. There is a large class-room and dining-hall, and these three principal apartments are finished in red brick with a struck white joint, on a deep dado faced in Portland cement. The gasfittings in the school-room and dining-hall are by Hart, Son, Peard, & Co., of London. There are three lofty, well ventilated and lighted, commodious dormitories, lavatories and bath-room, besides the master's residence, which is fitted for a moderate family.

The original contractors were Messrs. Newman & Son, of Winchester, but consequent upon their failure, Messrs. H. W. Frampton & T. H. Burton, of Winchester, their sureties, were called upon to complete the works. The total cost of the building, fences, and enclosures, has been about 4,400*l.* Mr. Edmund Woodthorpe, Coleman-street Buildings, Moorgate-street, was the architect, and Mr. H. F. Sanders the clerk of the works.

Regent's Park.—On Monday, the ceremony of felling trees and cutting the first sods on the land conceded to the vestry of St. Pancras by the Commissioners of Woods and Forests, for the purpose of widening Gloucester-gate Bridge on its reconstruction, was carried out under the auspices of the General Purposes Committee. The tender for the reconstruction of the bridge by Messrs. Kirk & Randall has been accepted at the sum of 13,500*l.*, and the work is to be completed in nine months from the present time. Reference was made to the other projected metropolitan improvements for St. Pancras, including the widening of Kentish-town-road, Gordon House-lane, &c., Mr. Furniss stating that by next Monday the whole of the required improvements in the parish would probably have been considered and agreed to by the Metropolitan Board of Works.



THE ODIHAM ENDOWED GRAMMAR SCHOOL.—Mr. Edmund Woodthorpe, Architect.



EQUESTRIAN STATUE OF H.R.H. THE PRINCE OF WALES, FOR BOMBAY.—Mr. Boehm, Sculptor.

EQUESTRIAN STATUE OF H.R.H. THE PRINCE OF WALES.

THE equestrian statue of the Prince of Wales, of which we give a view, is presented by Sir Albert Sassoon to the city of Bombay. It is the work of Mr. Boehm, and will be an ornament to the city. The figure is about 10 ft. high, the horse in proportion, and it will have a polished granite pedestal, with the arms of his Royal Highness, a shield, with the inscription of occasion and donor, &c., and two bronze panels in relief; one, "The Arrival of the Prince at Bombay" (staff, functionaries, and Indian chiefs are portraits). The subject of the other has only lately been decided. It will represent a different subject from that proposed at first, and at the time when the woodcut was made (and too late for change). It is to be the school children of Bombay greeting the Prince. The subject was named by the Town Council of Bombay, to whom, with his Royal Highness's sanction, Sir Albert Sassoon left the choice, in preference to the one formerly proposed, of giving the colours to the Bombay Marine Regiment. The whole affair will entail a cost to Sir Albert Sassoon of about 10,000*l.*, none of which is subscribed, but solely borne by him alone. The statue is now being cast at Messrs. Young's, Eccleston Foundry, Pimlico.

THE PREVENTION OF FIRES.

THE Report of the Select Committee appointed to inquire into the constitution, efficiency, emoluments, and finances of the Metropolitan Fire Brigade, and into the most efficient means of providing further security from loss of life and property by fire in the metropolis, has been issued. The Committee recommend:—

That the Fire Brigade should be transferred from the Metropolitan Board to the Commissioner of Police for the metropolis, so, however, as to constitute a distinct branch to be placed under the immediate command of a separate Assistant Commissioner, and to be authorised to act within the city of London as well as in the metropolis.

That hydrants should, without delay, be affixed to mains and service-pipes, wherever there is a constant supply, and should follow the extension of such supply.

That the water systems now belonging to the various companies should be consolidated in the hands of a public authority, which, in dealing with the questions of constant supply, pressure, and pipage, should be bound to have regard not only to the convenience of consumers, but also to the requirements for the extinction of fire.

That no new theatre or large music hall in the metropolis should be finally licensed until certified that, in respect of position and structure, it satisfies all due requirements for the protection against danger from fire, and that the Metropolitan Board should be the certifying authority.

That with respect to existing theatres and halls the Metropolitan Board should have power to call on the proprietor to remedy such structural defects as appear to the Board to be the cause of special danger, and to admit of being remedied by a moderate expenditure, option being allowed to the proprietor to refer the whole question to arbitration.

That with a view to the prevention of danger from fire, the Lord Chamberlain and the justices should be authorised to make regulations as to the management of theatres and music halls under their jurisdiction; that for the purpose of ascertaining whether such regulations are complied with, provision should be made for the inspection of these buildings, and that any breach of the regulations should be punishable on summary prosecution.

Society for the Encouragement of the Fine Arts.—The members of this society were on the 24th ult. conducted over Westminster Abbey by Dean Stanley. In describing the history of the structure, Dr. Stanley remarked that nothing was more erroneous than to suppose that the people of former ages had any respect for antiquity in architecture. Just the reverse was the case. After the time of Henry III., large portions continued to be added to the church, and one peculiarity of this continuation was that the destruction was not carried out in a ruthless manner,—hence the Abbey was one of the few places where architecture of the thirteenth century had been carried on in the nave up to a later period.

A VISIT TO THE CATHEDRAL AND PARISH CHURCH OF ST. ASAPH, NORTH WALES.

THIS cathedral, the smallest in Great Britain, is of great historical interest. It is so small "that it is not unlikely that the Norman successor of the first British building covered the same extent of ground"; * the British or Celtic church has always prided itself upon its priority to the Romish Church. Bishop Anian, who built the cathedral on the old site, it will be recollected, was the favoured prelate chosen to baptise the infant Prince of Wales, born in Carnarvon Castle.

St. Asaph, or as it is called by the Welsh, Llan Elwy, the Church of Elwy, a name obtained from its situation on the bank of the river Elwy, which flows along the west side of the town, consists of little more than a single street, pretty regularly built, up the side of a hill, called Bryn Paulin, from having been made a place of encampment by Paulinus, a Roman general, on his way to the island of Mona.

The foundation of this episcopal seat and monastery has been thus related. Cyndeyrn Garthwys, or Kentigern, the son of Owain ap Urien Reged, was bishop of Glasgow and primate of Scotland, but was driven thence by the persecutions of one of the Scottish princes. He fled into Wales, where he was taken into the protection of Cadwallon, uncle to Maelgwn Gwynedd, prince of North Wales. Here, about the year 560, he founded an episcopal seat and monastery, and became himself the first bishop. On the death of his persecutor he was recalled into Scotland, but first nominated his disciple Asa or Asaph, his successor, from whom both the church and town received their designation. In the time of Asa, the number of monks was nine hundred and sixty-five; of these, three hundred were labourers in the fields, three hundred servants about the monastery, and the rest were religious. Asa died about the year 596, and was interred in his own cathedral.

About the year 1247, in the wars between Henry III. and the Welsh, the bishops, both of St. Asaph and Bangor, were driven from their sees, and became indebted to voluntary contributions for subsistence.

The first building, which was of wood, was consumed by fire in 1282. Upon the burning of the cathedral, &c., Anian was desirous of translating the episcopal see to Rhyddlan, two miles from thence. King Edward promised ground to build a church upon, and 1,000 marks towards building it; and letters were written to Pope Martin IV. to procure leave. However, the same was prevented by the Pope's death, as Godwin supposes, or by the Archbishop of Canterbury's circular letters, wherein he exhorts the bishop and canons to rebuild the church, which they did, and raised from the ground the present fabric, the walls of which have stood ever since 1284. The roof, or upper part, was burnt down about 1404, by Owen Glandwr; and about 1490 Bishop Redman repaired the walls, and carried them up to the present height, and placed thereon a new roof, and made the east window-stalls in the choir. The choir remained unfinished until about 1770, when it was nearly rebuilt by the dean and chapter.

In the Parliamentary wars the edifice was desecrated and greatly injured, being used as a barrack and hospital for the military. One Milles, who held the post-office and lived in the bishop's palace, sold wine and other liquors there, and kept his horses and oxen in the body of the church, and tied up and fed calves in the bishop's throne and other parts of the choir, removed the font into his yard, set it in the ground, and made use of it for a hog-trough, &c.

The following mortuaries were formerly due to the bishop of this diocese on the death of every beneficed clergyman. On the interference of Bishop Fleetwood they were set aside by Act of Parliament, and the living of Northop was annexed to the bishopric in their stead.

His best gelding, horse, or mare.	His waistcoat.
His best gown.	His hat and cap.
His best cloak.	His falchion.
His best coat, jerkin, doublet, and breeches.	His best book.
His hose or nether stockings, shoes, and garters.	His surplice.
	His purse and girdle.
	His knife and gloves.
	His signet or ring of gold.

These mortuaries amounting to a very small sum, Bishop Fleetwood forgave the poor widows, and compounded with the rich. The money he expended in buying books for the library of the school-house, which was taken down in 1780, since which time the books were removed to the Consistory Court.

North Wales has had its legends, witches, and saints,—of course, wonderful stories; St. Asaph has not been exempted; "not many years ago a mark on a black stone in the pavement of the street, about the middle of the hill between the two churches, used to be pointed out to strangers as the print of St. Asaph's horseshoe, when he leaped with him from Onan-bassa, which is about two miles off." This, however, observes Mr. Grose, who relates the story, seems to have been a miracle performed rather by the horse than by the saint, to whom it is ascribed, unless the keeping of his seat at so great a leap may be deemed such. What was the occasion of this extraordinary leap we are not told; whether only to show the agility of his horse, or to escape the assaults of the foul fiend, who, in those days, took unaccountable liberties even with saints.

Wharton, in 1695, in the compilation of his "Lives of the Bishops of St. Asaph," used some notes from the "Lyfr Coch Asaph," now lost. The building was visited also by Giraldus, who speaks of it as "the poor little church of Llanelwy."

Browne Willis, in 1720, issued a "Survey of St. Asaph," and in 1801 an enlarged edition was published. This work is of historical value, but of little architectural interest; it is devoted more particularly to the bishops, deans, and other religious dignitaries. The dimensions of the cathedral are given in yards occupying several pages; an outline plan, figured, would have been more easily comprehended. Some portions of the history are unintelligible, for instance:—"The height of the steeple or tower is 93 ft.," and "the top of the tower was leaded and the upper part of the steeple put into good repair, after a breach occasioned by a storm on Feb. 2, 1714," which blew down the top of the steeple, which fell into the choir and did much damage to the roof, organ, and seats.

In 1801, the cathedral church was not used as a parish church, as the other cathedrals in Wales were.

In the hand-book of the late Ecclesiological Society, the cathedral is called "coarse, mean, and small," and mainly attributed to the poverty and scanty population of this mountainous district. The building, although very far from possessing the architectural beauties of the English cathedrals, still affords a valuable example of a neat, plain cross.

Rickman observes that "the nave and transepts are evidently of Decorated date, and though worked very plain, contain some singularities, and even beauties; among these may be reckoned the west window, which is an elegant one of six lights."

The internal dimensions are as follow:—

	ft.	in.
Nave and aisles	83	1
Piers of tower arch	4	8
Tower	30	8
Piers of chancel arch	5	3½
Chancel	59	9
Total length of church	183	5½
Nave	31	9½
Piers	3	10
North aisle	14	4½
Piers	3	10
South aisle	13	11
Total width of nave and aisles	67	9
North transept	34	0
Tower piers	5	0
Tower	30	0
Tower piers	5	0
South transept	34	0
Total width of church	108	0

In recording the dimensions of a cathedral or church in handbooks, it would be more satisfactory if it were stated whether the dimensions were internal or external.

The nave is separated from the aisles by four piers and two responds, supporting five pointed arches on each side. The piers and arches consist of plain but bold mouldings, continued without the interruption of capitals, round the arches. Above the arches, on each side, are five ancient clearstory windows; small square apertures recessed, with an octafoiled light. The west window is pointed, in six lights with trefoiled heads; in the head of window is Flamboyant tracery. The window is filled with

* *Builder*, vol. xxxi., p. 637.

stained glass in memory of Canon Rowland Williams, M.A., date 1856.

The west doorway and doorway in north aisle are pointed. The modern oak doors are in memory of Sir Stephen Glynne. The hinges of the west door cost 75*l.*, and those of the north aisle door 45*l.* Narrow brass plates recording these gifts are placed under the sills of the doors.

The roof is modern, of wood and groined, with knees and corbels, partly sculptured, with bosses at the intersections, being carved into foliage, flowers, and other devices. No doubt there was an authority for this, but it seems hardly in character with the simplicity and boldness of the architecture of the building. In 1720 the roof was plain, without any ornaments, and all compass work, very different to the present groining.

In the nave, on the south pier of the tower arch is a slate mural slab, with an imposing ornamental brass cross, in memory of Charles Butler Clough, M.A., date 1859.

The pulpit is situated in the north-east angle of the nave. It is octagonal, panelled, and the cornice is decorated with the grape-vine; the fruit and foliage are sculptured alternately.

In 1631, Bishop Owens fixed a new wainscot pulpit, and seats and forms, to hear divine service, and newly built or "beautified" his episcopal throne.

Bishop Isaac Barrow, uncle of the eminent Dr. Isaac Barrow, in about 1670, repaired several parts of the cathedral church, especially the north and south aisles, and newly covered them with lead; and caused the east parts of the choir to be wainscoted, and laid out a considerable sum of money in the building and repairs of his palace at St. Asaph, and the mill belonging to it.

The roof of the north aisle is a lean-to, of oak, in compartments, with quatrefoil rosettes at the intersections, knees plain. The cornice is embattled. In the north wall are three windows and a door. The windows are in two trefoil-headed lights, with a quatrefoil in the head of each. All are glazed with common glass. The string-course of the wall consists of a simple roll moulding, the upper member overlapping the lower.

The west window of the north aisle is pointed and splayed. It is in two trefoil-headed lights, with a quatrefoil in the head. The window contains painted and stained glass, with Scriptural figures and quotations, in memory of Captain Bonner, son of Dean Bonner. Beneath the window is a brass in memory of two daughters of Richard Maurice Bonner, Dean of St. Asaph,—dates 1859 and 1865. This aisle is separated from the transept by a pointed arch, with piers, similar to those in the nave, and a panelled screen.

There are marble mural monuments. One is on a grey slab, with embattlements and pinnacles, to the memory of Thomas Webster, of Liverpool, date 1832; and a white marble mural tablet to John Blewer, 7th battalion R.A., and James Blewer, 23rd regiment R.W.E., formerly choristers in this cathedral, who fell during the siege of Sebastopol in 1855.

The roof of the south aisle is modern. There are four windows similar to those in the north aisle. This aisle is separated from the south transept by a pointed arch and screen, exactly the same as in the north aisle.

There are several white marble mural slabs, placed from east to west in the following order:—To Harriette Anne, wife of Lieut.-Col. G. Browne, C.B., of the metropolitan police, Dublin,—date, 1859; Lieut.-General Sir Henry Browne, K.C.H., Col. of the 80th regiment, of Bronwylfa,—date, 1855; Louisa Anne, wife of the above, and daughter of the Bishop of Bristol,—date, 1823; Felicity Dorothea Browne, of Rhylton,—date, 1827; Elizabeth Anne, wife of Lieut.-Col. Sir Henry Browne, of Bronwylfa,—date, 1826. In memory of Felicia Hemans, "whose character is best pourtrayed in her writings; she died in Dublin the 16th May, 1835, aged 40." This tablet was placed here by her brothers. A clumsy marble slab, surmounted with an urn, to the memory of Elizabeth, wife of Edwin Wyatt,—of the Mount,—date, 1839. A white marble mural monument, by Westmacott, R.A.: two angels, full length in bold relief, beautifully sculptured, with armorial shield beneath the inscription coloured by the organist, which is no improvement to the monument, to the memory of Sir John Williams, bart., of Bodelwyddan,—date, 1830. Another white marble mural pyramidal sculptured monument, to Sir John Hay Williams, 2nd bart., of Bodelwyddan,—date, 1859. A mural slab, with hat and sword, sculptured, in memory of Charles Whiteman Thomas, Captain 21st Hussars, died in India,—date, 1867. White marble tablet with an urn, in memory of Richard Bythell,—date, 1845. A marble slab, surmounted by armorial bearings, with a long Latin inscription, copied *in extenso* by Browne Willis, to the memory of William Price, of Rhiwlas,—date, 1691,—completes the monuments at present on the wall of the south aisle. This tablet used to be on the north side of the altar.

There are several modern brasses: an ornamental one to Lady Sarah E. Hay Williams, of Rhiawa, Anglesey,—date, 1876; a plain brass to Major William John Bythell, late of the Imperial Austrian army,—date, 1866.

In the floor are slabs with ornamental borders and armorial bearings to the memory of John Price, of Vanol, eldest son of Colonel William Price, of Rhiwlas,—date, 1685; and William Price, 1691.

The font stands at the west end of the aisle; is octagonal, with a quatrefoil on each side of the basin. The stem has trefoil-headed panels. Part of the basin is from an old font.

The nave and aisles are paved with stone, and fitted with chairs secured in the usual way; and lighted by twisted brass standards, each having four branches. The nave was re-opened, after restoration, September 2, 1875.

The north transept has a compass roof superficially ribbed. The windows are of a Decorated character. The north window is pointed, in five trefoiled lights, with quatrefoiled tracery over, with painted and stained glass. In the east wall are two windows in three trefoiled lights, with a quatrefoil over.

Beneath the north window is a cumbersome Gothic monument to John Luxmoore, D.D., Bishop of St. Asaph, and of his family, date 1830; an arched canopy upon an altar-tomb. Beneath the canopy against the wall are marble panels in compartments, containing Latin inscriptions. On the panelled sides of the tomb are brasses recording the more recent deaths of members of the family—dates, 1849, 1854, 1860, and 1862. In the floor is a brass plate over the entrance to the vault.

In 1535, Bishop Standish left in his will 40*l.* to pave the choir, with which, as tradition says, the organ was bought. There has been a tradition that his executors thought an organ more needful, and so bought one, which was made by a cooper (!), and when it was set up in the church his executors were sued for non-performance of the letter of the will.

In 1635, Bishop Owens set up "the great and new organ," which was brought from London in the beginning of October, and played upon. On which occasion this distich was made:—

"Magna silet Campana, sonant tamen Organa Sancti Assaphensis; Honos, Gloria, Lausque Deo."

The present organ is against the east side of the transept by the tower, and was erected in 1714; it is carved, gilt, and painted. Beneath the organ are seats and fittings for the choristers to assemble in; which occupies nearly half of the transept, and is admirably adapted for a barrack-room. The masonry of the transept is plastered. An interesting Norman cushioned capital is lying on the floor, also a sculptured monumental stone found at the depth of 2 ft. in the ground at the chancel end.

Under the tower, and in the north aisle, were interred Dean Middleton, J. Loche, Francis Darington, organ-blower,—his gravestone is in the south transept; Anne Gregor, and Ignatius Thwayte.

The south transept, formerly called Cappel Vair, or St. Mary's Chapel, is entered from the south aisle. A stone figure of a bishop standing upright, like a policeman on duty, first merits attention. This figure in episcopal robes was formerly recumbent, on an altar tomb in the chancel, in memory of Bishop Dafydd ap Owain, the first Bishop of St. Asaph, who died in 1502. It is to be regretted that the altar-tomb and the recumbent effigy of the bishop were not retained in their original position, instead of being excommunicated to make room for glaring and slippery polished marble pavements and other performances which are entirely out of character with the original simplicity of the cathedral.

A white marble monument, consisting of a seated figure on a pedestal, to the memory of William Davies Shipley, dean and chancellor of this diocese for more than half a century, is placed in the transept. He died in 1826. The monument was sculptured by Ternouth in 1829, and cost 600*l.*

In the floor are several memorial stones to Richard Herbert, 1661; Francis Darington, organ-blower, 1691; John Wolf, 1671; Thomas Jones, verger, 1685; and his wife, 1680; an incised cross on a stone and other memorials.

Suspended in this transept is a curious map of Flintshire, by John Speede, date 1400.

The south transept is used as a chapter-house and consistory court, and is closed up with wainscot work. On the east and west sides are ranges of oak cases, embattled and panelled with trefoiled heads, containing numerous MSS.; an autograph letter of Charles II.; a prayer-book in Old English character, date 1657; a polyglot Bible, 1657; and two different issues of the prayer-book, 1549; in 1849 Isaac Griffith presented to the Bishop of St. Asaph a book of 1518, formerly belonging to Richard Robert Jones, born at Aberbawn, in Carnarvonshire, 1780, died 1847. He was familiarly known as Dick Aberbawn. Among other works are those of Clarke, Fleetwood, Kettlew, Barrow, Leslie, Allen, Bilson, Stebbing, &c.

The consistory court, vestry, and library comprise a canopied throne and the usual fittings, all of wainscot.

Browne Willis, in 1720, says that in the library were 1,458 volumes of various branches of literature. Bishop Fleetwood began the library, and the number of books has since been increased by the donation of several persons.

The roof and windows are of the same character as those in the north transept. The walls are likewise plastered. The armorial bearings in the east windows of the south transept are ancient, and were formerly in the east window of the chancel.

Beneath the tower is the choir, fitted up with Perpendicular stalls, with crockets and finials, the seats of the misereres are carved and interesting, and without vulgarities. The bishop's throne is canopied, and is placed under, and on the south side of the chancel arch. A brass plate with a Latin inscription is affixed on the back of the throne, in memory of Dr. William Beveridge, eminently devout, zealous, and useful, and frequently designated "the apostolic bishop," and "the restorer of primitive piety." Opposite the throne, under the arch on the north side, is a modern fanciful octagonal oak pulpit, panelled with heads in bold relief.

Rickman describes the choir in his time as a "modern re-edification, with much attempt at imitation of ancient work, but no real resemblance to any style, though the intention appears to have been the imitation of the Perpendicular style." Some wood carvings, stalls, altar-rails, throne, &c., with one of Cromwell's spurs, have been deposited in the belfry. At present there are only two bells, and those were cast out of three, which are said to have been brought from Wrexham, and exchanged for a very large bell which was called "Dicas," and had inscribed upon it, "*Dicas Boddlewiddan*," as supposed, by its being given by an ancient family of that name in this parish. On the smaller bell is the following inscription,—"*Thomas Roberts fecit ex decreto et impensis capituli Asaphensis*, 1681"; and on the largest,—"*He duæ campanæ e tribus conflatæ sunt.*" Both these bells were exchanged for one from Gloucester in 1793.

In November, 1638, the "steeple and belfry were repaired and new made with boards and the frames of the bells re-edified."

On the 2nd of February, 1714, a violent storm blew down the "top of the steeple," which was afterwards repaired by Bishop Wynne, at the cost of 600*l.*

It is to be hoped that before long a peal of bells will be added, as the tower is not only capable of receiving them, but in 1720 there were frames for eight bells, and in 1759 John Tanner, prebendary, left in his will 21*l.* towards a peal of bells. This will do to head a subscription-list, as bells add considerably to the dignity of a cathedral.

At the west end under the nave arch stands a brass eagle, the gift of Miss Mesham, which cost 120*l.*

The chancel has a compass roof, ceiled with panels. The east window was modern, and said to have been an imitation of one at Tintern Abbey! It is now in seven lights; six have trefoiled heads, the central light has a cinquefoiled head, quatrefoiled tracery in arch, with a hexafoil in the centre. The window is glazed with modern stained glass as a memorial of the late Bishop Carey and Mrs. Carey. The window is the gift of the representatives of Mrs. Carey. The central light is devoted to the subject of "The Ascension," and the three lights on either side contain in each two subjects from Our Lord's

history. The tracery above the side lights is occupied by the six Acts of Mercy, and the whole is surrounded by an oval, in which is a representation of Our Lord enthroned in glory, bearing in his hand the orb and sceptre.

The side windows of the chancel are modern Early English, out of character with the rest of the cathedral; grouped together in two and three lights, with labels and dog-tooth ornament on the exterior, with banded columns, with capitals moulded and foliated.

One window on the north side is in memory of Mrs. Hemans, given by the Rev. Hicks Owens. There are five steps to the altar. The benches in the chancel are of oak, with carved finials. The chancel is paved with variegated polished marbles and tiles, imparting an Italian character, apparently quite foreign to the simple character of a mountain cathedral. In 1720 the chancel was paved with freestone, intermixed with gravestones.

The reredos is of alabaster and marble; it was completed in 1871, and consists of a series of cinquefoiled arches supported by marble columns with foliated capitals and bases in the Decorated style. The spandrels contain sculptures. The central portion over the altar is of rich tabernacle work; it represents the procession to the place of Crucifixion. In the centre is the figure of Christ bearing the cross; to the right are Roman soldiers preceding, and on the left the three Marys, and several of the disciples following; all these figures are in alto-relievo. The cost of the reredos was about 600l.; it was the gift of Mrs. Hesketh, of Gwrych Castle. Surely there is no authority for this elaborate work, which must present a striking contrast to the usually simple altar-screen.

On the south side of the altar are three sedilia, all on the same level; they have trefoiled arches, supported by marble shafts, with foliated and moulded capitals. The chancel is lighted similar to the nave, with twisted brass pillars, supporting four branches.

The marble tablet to William Price, of Rhiwlas, formerly on the north side of the altar, has been removed to the south aisle; also the mural monument to the daughter of Evan Lloyd, of Pengwern, 1763.

In about 1712, Bishop Fleetwood paved and flagged a great part of the cathedral, at his own expense, with broad stone, obtained from Sir Pierce Mostyn, of Talacre, Flintshire. He also laid out above 100l. in adorning and painting the choir throughout.

The choir was "much improved" in Bishop Shipley's time, 1780, and a new throne and pulpit erected, when all the gravestones were taken away, including Bishop Owen's tomb, and the whole newly paved in a "modern style." Under the gravestones were interred the son of Colonel Price, &c. Under the communion-table were buried Dean Evans and the eldest son of Bishop Parry; and below the bishop's throne were interred Bishop Griffith, Susanna Griffith, and Robert Griffith, third son of Dr. W. Griffith, chancellor of the diocese.

In the middle of the choir were interred Edmund Ferrars, Vicar Turbridge, and Thomas Otty, vicar precenter and organist.

The choir and chancel were re-opened after restoration, September 30, 1869.

Exterior.—The tower of the cathedral commands a most extensive prospect of the vale of Clwyd, in every direction. It is said to be 93 ft. high, and rises from the intersection of the nave and transepts, embattled with parapets and cornice; the upper part has been rebuilt. The turret staircase is in the north-east angle. The windows, one on each side, in two lights pointed, and transomed, with trefoiled heads. They are filled with louvres. The roofs are covered with slates from Ogwen, in Carnarvonshire. The tower and aisles are leaded. The nave is embattled, with a corbelled cornice and parapets, all modern work. The buttresses are in one stage gabled, bold, simple, and very plain. The windows have external shafts, with moulded capitals and bases. The labels have ghastly corbel-heads, apparently not improved by scraping. The buttresses of the chancel are in three stages, splayed; with square-panelled, heavy, stunted pinnacles, with crockets, and ill-proportioned finials. The stone veneering of the north-east angle buttresses is becoming dislocated. On the gable is a cross. The chancel has a corbel-table to parapet. The transepts have buttresses in two stages, splayed. On each gable is a cross with a large chimney-pot behind it. The tower is mostly of squared stone, some of which is red. The chancel and other parts are of a soft red stone, said to have come from a rock in or about Kill Owen.

The cathedral being insulated, a good view of three of its sides can be obtained from the churchyard. The south side faces the street.

In the churchyard by the western entrance is an altar tomb to Bishop Isaac Barrow, date 1680, uncle of the eminent Dr. Isaac Barrow.

The parochial church is dedicated to St. Asaph and St. Kentigern, and is situated at the foot of the hill of which the cathedral occupies the summit. It consists of a nave, with a bell-turret of two openings, with one bell, south porch, north aisle, and vestry-room.

The nave is called Eglwys Asaph, that is St. Asaph's Church; it is separated from the aisle, that is Kentigern's Church, by four piers and two responds, consisting of moulded shafts, with hollows between. The roof is an open-timbered span, with cambered tie-beam, with struts, openings foliated; by knees on stone corbels, with hearts, angels, &c. The west window is in three cinquefoiled lights, with Perpendicular tracery above. This window is glazed with stained glass in memory of Captain Thomas, date 1872. The windows in the south wall are in four cinquefoiled lights. The floor is paved with stone, and the seats are open. Over the south doorway are the royal arms.

The font is circular, and stands at the west end of the nave on the south side. The porch has been rebuilt. On the inner door is "1687, S. I. E. I." On the west wall are marble tablets of recent date.

The nave and north aisle comprise two equal portions under separate roofs, divided by an arcade, without any visible distinction of chancel. The original position of the pulpit on the south side of the nave; used to mark a division, a small window, high up, is close by the former place. The east window has a depressed arch, with five hexafoiled lights, with trefoiled tracery over.

In the east window was "A. 1614." This inscription remaining, painted on the glass, which seems to denote the time it was built in. "*Orate pro Bono Statu omnium Parrochianorum Parrochiæ Asaphensis opus vitreum et Lapideum factum fuit et finitum A.D.* 1524."

The altar is raised four steps, and paved with encaustic tiles. The pulpit, of carved oak, now stands on the south side, by the altar. The stalls are open, with carved finials. In the south wall near the east end are two piscinæ.

The roof of the north aisle is an open-timbered span, with cambered tie-beam, with struts. The east window has a depressed arch and transomed. The lower part is in four lights, cinquefoiled; the upper part has trefoiled heads. In the north wall are two windows; one is in two cinquefoil lights, and the other window is in three similar lights. The organ is in the north-east angle. The vestry-room on the north side is modern, and was built about 1872.

There are several marble slabs on the walls, in memory of the families of Lloyd, Humphreys, Foulkes, Evans, O'Connor, and others, dating from 1680 to 1859; also a brass, to Thomas Lloyd de Keven,—date, 1695.

The whole of the interior stonework has been thoroughly scraped; the piers in the nave have been reduced to the last stage of consumption. The parish church was re-opened after restoration, October 18, 1873.

The churchyard is large, and has numerous gravestones, with inscriptions in memory of the parishioners. Some of the stones, in shape of stone coffins, are said to have been brought from Rhyddlan Abbey.

The term "Church Restoration" has been so long accepted that it would be futile at this period to attempt a more exact or truthful meaning. To restore means to reproduce exactly, or to make good, in its own likeness, that which existed before; that it should be worked in the same material not being of that vital importance as the reproduction of the mental design of the work. If a church be not exactly restored, in accordance with the above definition, it would, perhaps, have been more reasonable to employ the term *re-modelled* in lieu of restoration. To illustrate this point, reference may be made to Ruabon church, "restored" in 1872; the account given at that time says, that "an entirely new roof has been put up, the stone pillars which supported the arches between the nave and side aisles have been replaced by others of a *lighter character*."

St. Asaph's Cathedral affords an illustration of that which can be effected by bold, simple, and graceful proportions, without vulgar ornamentation; to which, unfortunately in later years, it has been subjected.

There is no guide-book to the cathedral sold in the town, and the photographs are very indifferent.

W. Pettit Griffith, F.S.A.

NEW CHURCH ON COPTHORNE COMMON, WORTH, SUSSEX.

On Thursday, the 19th ult., a commodious and much-needed church was opened by the bishop of the diocese (Chichester), in the presence of the donors, and a large attendance of the local clergy and laity.

The church, which is in the Early Gothic style, is dedicated to St. John, and is the gift of Lady Lampson. It is built on a portion of the property of Sir Curtis M. Lampson, bart., the undulating ground having been most picturesquely levelled to form a suitable site. It consists of a spacious chancel, nave, and side aisles, the latter divided off by four bays, composed of pointed stone arches, supported by circular stone pillars. The handsome east window, in three separate lights, is filled with stained glass, by Mr. Gibbs, of London. The subjects are Christ as the Good Shepherd, in the centre light; St. John in the right-hand one; and St. Peter in the left. Interiorly, the walls are of red brick, with decorative bands of black and buff brick; exteriorly, they are of local rag-stone, with dressings to the buttresses, and window tracery of Bath stone. The spire, also of Bath stone, forms a pretty object, standing out white from its background of green trees. The church has taken rather more than one year to construct. Messrs. E. Habershon & Brook are the architects, and Mr. Shearburn, of Dorking, is the builder.

BIRKENHEAD SCHOOL.

In the new school here the separate studies, to one of which every boy is entitled, possess each a superficial area of about 70 ft., and a proportionate cubical area. They are heated by hot-water pipes, and ventilated by extractors running up the entire length of the building. In addition to these there are large rooms adapted to the accommodation both of senior and junior scholars, as well as apartments for the staff. The half-sunk basement floor contains the music room, laboratories, storerooms, and the usual offices; while the large dining-hall, 40 ft. by 23 ft. and 17 ft. high, offers ample room for upwards of 100 boys. The first and second floors contain the cubicles and dormitories for about forty-five boarders, the sanitary arrangements of which are regarded as most complete, no expense having been spared either in design or construction to carry these out. Bath and lavatory accommodation is provided, and a system of waste-pipe ventilation. The corridors on these upper floors are heated in the same manner as the studies, and are ventilated. An isolated sick ward, with day-room and lavatories attached, occupies the southern end of the upper floor, and is effectually cut off from the other parts of the building. Each floor is provided with a master's dormitory and sitting-room, and the whole is in direct communication with the principal's house. The style of the buildings has been designed to conform with the school proper, erected about seven years ago, and is Late Gothic in character, the materials used being brick with stone dressings, and the entire block forms an imposing group. The works have been executed by Mr. W. H. Forde, of Birkenhead, at a cost of about 5,500l.; and the architect was Mr. David Walker, of 11, Dale-street, Liverpool.

Metropolitan Fire Brigade.—At the weekly meeting of the Metropolitan Board of Works, on the 27th ult., it was resolved, on the recommendation of the Fire Brigade committee, that the Board should purchase of Lieut.-Col. Sterling, for the sum of 2,900l., the lease of a house in Chapel-place, and two stables in Relton-mews, Brompton, at Ground-rents amounting to 16l. a year, the lease to be for eighty years from the 29th September next. It is the intention of the Board to erect a new station on the site thus acquired. At the same meeting it was resolved that a bronze medal be instituted, to be given to men of the Metropolitan Fire Brigade, who distinguish themselves by extraordinary bravery at fires, and that the matter be referred back to the committee, with authority to prepare and submit to the Board a design for a medal.

ARCHÆOLOGICAL SOCIETIES.

Northampton and Oakham.—The annual excursion of the Northampton and Oakham Architectural and Archæological Society took place on the 17th and 18th July, when a large number of members visited Oxford. Assembling at the Old Radcliffe Library, they were met by Mr. James Parker, M.A., who kindly accompanied them during the whole of their stay, indicated the various points of interest, and gave a description of the buildings and places visited.

Berkshire.—On the 24th ult. the members of the Berkshire Archæological and Architectural Society, to the number of about eighty, visited Gloucester. They assembled in the cathedral at noon, where they were met by Mr. J. D. T. Niblett and Mr. F. W. Waller, who took them over the building, describing its salient features. The crypt was explained by Mr. Waller to consist of Norman, and not, as had been supposed, of Saxon work, the characteristics of each style being pointed out. Visits were also paid by the party to the deanery, the remains of the domestic offices of the abbey, the dismantled outer cloisters, &c., Bishop Hooper's monument, St. Mary de Lode and St. Nicholas Churches, &c. In the afternoon visits were paid to the Roman wall at Eastgate House and to the museum, where Mr. Bellows explained the collection of Roman remains on view there which were found at Eastgate House, and he afterwards gave a short lecture in the theatre upon them, mentioning the special discoveries he had made, including the remains of two Roman temples. The secretary of the society, Mr. F. W. Albury, recognised one of the pieces of stone, outside the science school, which was found at the base of the Roman wall near the city ditch, as the base of a column from 40 to 50 ft. in height; the temple to which this belonged, and which is supposed to have been to Claudius, must therefore have been of massive proportions.

Birmingham and Midland Institute. — The second half-day's walking excursion of the Archæological section of the Birmingham and Midland Institute took place on the 28th ult. The locality chosen was one necessarily near home, the places to be visited being Baddesley Clinton, Wroxall, and Rowington, all easy of access by the Great Western Railway. After visiting Baddesley Hall and church, the party left for Wroxall. Wroxall Abbey is nearly two miles from Baddesley, but, to avoid the wet grass, the party went round by a farther road. Some of the party, who thought they knew better than others, were for turning up a lane to the left, but on referring to the ordnance map it was found that it was the wrong road, and that it led direct to a place called "Hell,"—in fact, they were only two miles from that region, whatever it might be like. The *Birmingham Gazette* says there are actually two places so called in the locality,—"Hell" and "Little Hell." Avoiding these, the right path was chosen, which brought the party speedily to Wroxall Abbey. The abbey and church by tradition date back to the twelfth century. In 1546, the site of the priory, with the church belfry, churchyard, and all the lands in Wroxall thereto belonging, as also the rectory and the tithes of Wroxall, were granted by Henry VIII. to Robert Burgoyne and John Scudamore, and they continued in the Burgoyne family till 1713, [when Sir Christopher Wren purchased the estate, and for a long period it remained in the possession of his descendants, of whom Mr. Chandos Wren Hoskyns was one who lately occupied it. Some few years ago the old abbey was taken down, and Mr. James Dugdale built a modern mansion, partly on the same site. About midway between Wroxall and Rowington stands the fine half-timbered house known as the Shakspeare house, which most of the party stopped for a few moments to see. It is stated to have been inhabited by an uncle of the poet, and tradition has it that some of his sonnets were written in the little gallery chamber over the porch.

Norfolk and Norwich.—The Norfolk and Norwich Archæological Society has just made an excursion to the neighbourhood of Cromer. After visiting Cromer Church, the party proceeded in carriages to Beeston Regis, where the principal feature of interest is the cluster of hollows upon the hills, which has gained for the locality the name of "Hills and Holes." These hollows are not, however, peculiar to Beeston. There are no traditions, we are told, respecting them. A writer in Vol. III. of the Society's papers states that these hollows are supposed to be the sites of the habitations of the ancient British. The same writer says that in some instances two of the pits were joined together by a narrow trench, which was carefully lined with stones. Mr. Sharon Turner, in his "History of the Anglo-Saxons," mentions that Euphorus, an ancient writer, describes the Kimmerians or Cymri as inhabiting hollows connected with galleries or trenches. Some earthworks on the land side of these hollows is supposed to be a vestige of the Roman occupation. From these prehistoric remains the antiquaries turned to inspect the ruins of the Priory, upon which some farm-buildings abut. This Priory was founded by Lady Isabel de Cressey, in the reign of King John, for canons of the order of St. Augustine. Proceeding on to Sherringham, a fishing village, the visitors inspected the church, and went for a stroll through Sherringham Park. Thence they proceeded to Gresham and Aylmerton, where there are hundreds more of the supposed British hollows. Returning to Felbrigg, the party proceeded through the magnificent wooded park to the church, which contains some fine brasses.

Bristol and Gloucestershire.—The Bristol and Gloucestershire Archæological Society, which now numbers some 500 members, will hold their annual meeting in Cirencester on August 28th, 29th, and 30th, under the presidency for the year of Earl Bathurst. The inspection of the town, its church, and Roman remains, conducted by the Rev. E. A. Fuller, will, with the annual meeting, take place on the first of the days named, on the evening of which a dinner and meeting for papers and discussion will also take place. The following day will be devoted to an excursion to Chedworth Church, and an inspection of the Roman villa on the estate of the Earl of Eldon, who will provide luncheon. A visit to Stowell will follow on the way home. At the evening meeting a paper on recent Roman discoveries will be read by Professor Church. Next morning Fairford will be visited, and an inspection of the painted glass will be made, under the guidance of Mr. Joyce. It is hoped that a good temporary museum of objects of local antiquarian interest will be got together.

Royal Archæological Institute.—The annual Congress of the Royal Archæological Institute of Great Britain and Ireland has been fixed to be held at Hereford, and the arrangements of the proposed excursions have just been made. The Hereford meeting will be held under the presidency of the Lord Bishop of Hereford, and among the local patrons are Lord Bateman, Lord-Lieutenant of the county, and High Sheriff, the Marquis of Hartington, Earl Powis, Earl Beauchamp, Earl of Bradford, Earl Ducie, &c., and all the local M.P.s. Sir W. Guise is the president of the section of Antiquities; Mr. Beresford Hope, M.P., of History; and Mr. Gambier Parry, of Architecture. On the afternoon of the opening-day Sir Gilbert Scott will conduct the visitors round the cathedral, and give a description of the fabric. There will be excursions on every day of the congress, with the exception of the opening day, to objects of archæological and antiquarian interest in the surrounding district. These will include the minster at Leominster, and Ludlow Church, Ludlow Castle, Kilpeck Castle, Ewyas Harold Castle, Goodrich Castle, Kentchester (Magna Castra), with a Roman road crossing Offas Dyke near, and Credenhill Camp will be visited. It is proposed to wind up the meeting by devoting a day to an excursion to Tewkesbury, to examine Tewkesbury Abbey, now in course of restoration.

ASSOCIATION OF MUNICIPAL AND SANITARY ENGINEERS AND SURVEYORS.

The following is a list of officers elected for 1877-8:—

President—Fredk. Ashmead, M. Inst. C.E., Bristol.

Vice-Presidents—F. G. Deacon, M. Inst. C.E., Liverpool; A. W. Morant, Assoc. Inst. C.E., Leeds; E. Pritchard, Assoc. Inst. C.E., Warwick.

Council—Lewis Angell, Past-President, M. Inst. C.E., West Ham; James Lemon, Past-President, M. Inst. C.E., Southampton; J. G. Lynde, Past-President, M. Inst. C.E., Manchester; E. B. Ellice Clark, Assoc. Inst. C.E., Hove; P. B. Coghlan, C.E., Sheffield; C. Dunscombe, M.A., C.E., Derby; A. M. Fowler, M. Inst. C.E., Salford; J. E. Greatorex, C.E., Portsmouth; S. Harpur, Assoc. Inst. C.E., Merthyr Tydvil; P. C. Lockwood, Assoc. Inst. C.E., Brighton; E. J. Purnell, C.E., Coventry; W. S. Till, C.E., Birmingham; E. L. Stephens, C.E., Leicester; J. Fox Sharp, Assoc. Inst. C.E., Hull; T. C. Thorburn, C.E., Birkenhead.

District Secretaries—E. B. Ellice Clark, Hove; E. Pritchard, Warwick; R. Vawser, Warrington; B. C. Cross, Dewsbury.

General Hon. Secretary—Charles Jones, Assoc. Inst. C.E., Ealing.

THE BORINGS FOR THE SEVERN TUNNEL.

At the Bristol meeting of the Institution of Mechanical Engineers, last week, Mr. John J. Geach read a paper descriptive of the mechanical appliances used in the construction of the heading under the Severn for the Severn Tunnel Railway. The object of the paper was to record the results obtained in everyday work by the machinery used at the tunnel. The subject was arranged under the following heads:—Soundings by machine, sinkings of first shaft, driving the heading by hand, by the McKean machine and by the writer's machine, details of the rock-drilling machine in use, details of rock-drill carriage, details of air-pump and method of cooling, details of pumping machinery. Soundings were taken by the aid of a machine, consisting of a light drum, round which the brass sounding wire was coiled, a worm on the same shaft gearing into a worm-wheel, and an adjustable index hand and plate. The lead used was 12 lb. weight. This machine enabled two soundings per minute to be taken in 60 ft. of water. The plan followed was to sound on parallel lines north and south of the Parliamentary centre lines, at intervals of 30 ft. apart. After about twenty of these lines had been sounded and plotted, a final line was decided on as the central line of the tunnel; and along this soundings were again more numerous than before, and so well did these soundings agree that two would often plot on the same spot, although taken at different times. The machine shown was designed and made for the purpose, and was used in a row-boat 20 ft. long and 6 ft. 6 in. beam. Owing to the current, the soundings were only taken about half an hour before and after high and low water. As soon as the final centre line for the tunnel was fixed the position of the shaft was marked out, and sinking was commenced by hand through sand, sandstone, and marl, down to 45 ft. deep, at which depth the hand-pump, skips, &c., failed to keep the water under. As a temporary measure, one of Tangye's special pumps was put to work in the shaft, and by its aid the sinking was carried 25 ft. further, when it got overpowered. A bucket-lift on the Cornish plan was then erected, which kept the water under at four strokes per minute. As the shaft went down, a plunger-lift was coupled on the same engine, working in a tank, into which the same bucket-lift raised the water. With the aid of these lifts the shaft was sunk to the required depth of 200 ft., having passed through top soil, sand, sandstone, marl, conglomerate, pennant, clay shales, coal shales, millstone grit, limestone boulders and clay, and into ironstone. When down to the proper depth, another similar plunger-pump was erected at the bottom of the shaft, and the one with which the shaft had been sunk was also fixed at the bottom, so that there were two plunger-lifts fixed for draining the heading. Two suitable cages were now erected in the shaft, with wood guides, and were provided with catching-gear. These cages were suspended with ¾-in. round steel-wire ropes, both ropes working on the same drum, but wound on in opposite directions. The drum was 6 ft. diameter, and was geared 1 to 4 to a pair of horizontal engines with 10-in. by 14-in. cylinders, fitted with reversing gear, and with two brakes, one on the drum direct, and the other on the crank-shaft of the engine. As soon as the above work was finished, the driving of the heading was started by hand-labour, and the progress that could be made was not more than 1 ft. per 24 hours. The M'Kean rock-drills were then put at work, and for the next month the progress averaged 2 ft. per 24 hours. These machines worked from January, 1875, until the November following, when they were entirely worn out; the average rate attained was 6 ft. per 24 hours. In November, 1875, the author's improved rock-drilling machines were put at work, and in driving by their aid till the end of January, 1876, the average speed in the same pennant rock had risen to 8 ft. per twenty-four hours. This has since been much exceeded,—20 yards in six days, or at the rate of 10 ft. per day, has been driven in solid rock; and when the ground was more favourable as much as 26 yards in the same time, or at the rate of 13 ft. per day. Not only has this been done, but the average speed in the same rock is now rather more than 9 ft. per fourteen hours. The rock-drilling machine used differs from most rock-drilling machines in being made strong and heavy, and having a very efficient system of rota-

tion and method of holding the drill. The latter feature is quite new, so far as the writer is aware; its extreme simplicity, and the entire absence of any loose parts, must commend it to practical men, whilst its holding power is ample. It is also self-centering, which is very necessary with such men as work these drills, being merely ordinary labourers. This method of holding the drill has never been found to give any trouble, and the tool is also easily extracted.

THE ANCIENT WALLS OF FIESOLE.

On examining the Etruscan walls of this very interesting place, a correspondent (Dr. Phené) says,—I found a breach, of about 40 ft., caused by some recent heavy rains. It is asserted here that these walls, which are still 20 ft. high, the whole surface being seen to advantage since the removal of the earth which concealed from 12 ft. to 15 ft. of their elevation, are 5,000 years old, though I should think 2,000, or even 1,000, years prior to our era might be a safer conclusion. Still, in that case, they are of profound antiquity, and of very remarkable construction. The stones are large: I measured one 17 ft. long; they show no signs of weathering, nor, except in the breach referred to, have they deviated from the delicate angle they were placed at. The accumulation of earth which concealed them no doubt contributed to these results, as it does not appear to have existed where the wall has fallen. This portion is also near the old Etruscan aqueduct, leakage from which may have been the primary cause of the fall. The wall is simply a retaining wall to a vast mass of earth behind it, and of much less thickness than might be anticipated from the walls of its class. There are two walls of different construction; the one near the Roman theatre being that from which the design for the mural masonry of the Pitti Palace was taken. The wall I refer to is quite smooth. It has many of the features of the ancient cyclopean, although the stones are to a great extent tetragonal murally, and are not nearly so closely fitted in as most of the Etruscan walls. This certainly indicates great antiquity; and as the breach, if not repaired, will increase, and finally reduce the remainder, a notice in the *Builder* may avert what would be an irreparable loss to the historian and the lover of antique art.

Florence.

BUILDING SOCIETIES' PROTECTION ASSOCIATION.

At a meeting of this Association, held at the Guildhall Tavern, Gresham-street, under the presidency of Mr. Stainsby, the following clauses were adopted:—

"1. The committee recognise with satisfaction the partial solution of the difficulty, since the matter was referred to them for consideration, by the final settlement of the question raised in the case of 'Lovejoy *v.* Mulkern,' on appeal to the Lords Justices, on May 16th, 1877, by the application to the rules of a modified interpretation which, while limiting the cumulative principle to the first six months of arrear, has recognised the justice of such a continuous monthly fine as may afford a reasonable protection against loss of interest upon the deferred instalments.

2. They feel that it would not be practicable to recommend all societies to adopt one uniform charge of fines; seeing that regularity in the payment of monthly subscriptions or instalments is of greater importance to terminable than permanent societies, and that the great variety which exists in the modes of working, even among permanent societies, precludes the possibility of anything like uniformity of fines as a safeguard to their varying interests.

3. Notwithstanding this difficulty, the committee feel that an important step may be gained by abandoning the arbitrary principle of basing any system of fines upon a rate of so much per share, and adopting the actual amount overdue as the basis upon which a fine should be charged, thus converting a fine into a percentage upon the actual sum of money of which the society loses the use through want of payment at the proper time.

4. They feel that, excepting in the case of amounts of less than 20s., it is not advisable in any case to impose a fine exceeding 6d. per month on every pound in arrear.

5. They further submit that, assuming that so high a fine may be deemed necessary to check carelessness as to punctuality of payment, such a rate of charge should in no case be extended beyond a term of six months; and when it may be desirable in the interest of the defaulting member to permit arrears to continue for a period exceeding six months, no fines incurred after that time should be at a higher rate than 3d. in the pound per month."

The Victoria Dock Extension. — In our description of this work a fortnight ago, mention was made of the blue Staffordshire bricks used for facing the wing walls of entrance lock, &c. These bricks are being supplied by Mr. J. Hamblet, of West Bromwich.

CLIMATE AND ART.

Sir,—In your leader of last week you very wisely and courageously ran the editorial pen through the discouraging dictum that climate is the prime element in the development of art. I was very glad to find this so promptly done, as your journal is now to all intents and purposes the weekly journal of the fine-arts.

The elevation of the clerk of the weather, of climatic influences, to be the chief patron of art, is a fatalistic doctrine which would stamp all endeavour to promote art in this country as mere folly, and the vast sums expended upon its encouragement as so much money thrown away.

We may, perhaps, venture to assert thus much, and no more, viz., that the Temperate Zone is more favourable to mental development than the Torrid or the Frigid, and that, all other conditions being equal, the artist working in the fairest climate would have the advantage; but this is all. How small a factor climate is in the development of art may be gathered from the following facts:—

1. That Egypt, with the same climate, has for thousands of years failed to produce any art development.

2. That Greece, with the same climate as of old, has failed to produce a great artist for thousands of years.

3. That ancient Rome, with the same climate as Cinque-cento Italy, produced no great art development.

4. That Italy, with the same climate as Mediæval Italy, and with all the great examples of the past before her, has failed in art-achievement for several hundred years. The same may be said of Spain.

5. That there are many countries in the world possessing beautiful climates which hitherto have never produced any art at all.

All these instances clearly demonstrate that the development of art depends on other than climatic conditions. It should be recollected that the condition of the mental atmosphere has far more to do with the development of the fine arts than the physical atmosphere. Their successful development depends upon the advent of gifted individuals,—upon social and political conditions, and in their highest development on the perception, the culture, and the encouragement of a dominant class to remove and to promote them from the unstable condition of whim, and individual caprice, to broader views and to national purposes.

Meter.

LANDLORD AND TENANT.

In re Hastings—Shirreff *v.* Hastings.

A question of considerable importance to landlords arose in this case (tried in the Chancery Division before Vice-Chancellor Sir Richard Malins). In 1872 Miss Shirreff granted a lease of a house in London to the late Admiral Hastings, at a rent of 210*l.* per annum. The lease was in the usual form, and contained a covenant for the payment of the rent. Admiral Hastings died early in 1876. Letters of administration were granted to his widow in September, 1876, and in November of the same year an order was made for the administration of his estate. At the death of Admiral Hastings there was a year's rent due from his estate to Miss Shirreff, and as that estate was insufficient for the payment of all his creditors in full, the question was whether Miss Shirreff, as his lessor, was entitled to be paid the whole of the rent due to her in priority to the other creditors. The question depended mainly on the construction to be placed on Mr. John Hinde Palmer's Act,—viz., the 32 and 33 Vict., c. 46,—which, in 1869, abolished the distinction that till then had existed as to priority of payment between the specialty and simple contract debts of deceased persons.

The Vice-Chancellor said,—On the construction of Mr. Palmer's Act this debt was clearly not entitled to priority. The object of that Act was to sweep away all such priorities, and it must be construed liberally. His lordship then referred to the various cases which were cited in the arguments, and said that the effect of one of them was to meet the arguments based on the Bankruptcy Act of 1869 and the Judicature Act, 1875. He was of opinion, on the whole case, that it was within the enactment of the 32 and 33 Vict., c. 46, Mr. Palmer's Act; but that, if it had not been, it was covered by the provisions of the other statutes. On those grounds, therefore, it must be declared that Miss Sherreff had no such priority as was here relied upon.

MASTERS AND MEN.

London.—On Saturday last, in accordance with notices issued by the stonemasons that they required an advance of 1d. an hour after the 28th of July and a reduction in the hours of labour, the men in many of the large shops in the metropolis went out on strike, notably at the new Law Courts, where nearly 200 masons went out.——On Sunday afternoon a meeting of builders' labourers and others was held in Trafalgar-square, when it was resolved, "That this meeting of builders' labourers declare themselves to be the greatest sufferers by disputes arising between the skilled operatives and the employers, frequently resulting in lock-outs, and we respectfully request the associated master builders to consider the claims submitted to them by their skilled workmen, or submit the case to arbitration, which we believe is the most judicious and rational manner of arriving at honest conclusions." It was further resolved to raise a fund specially to assist labourers thrown out of work by the strike and the impending lock-out.

Kendal.—The strike of joiners at Kendal has terminated, and the men have resumed work, after having been out nine weeks. The demand was for 32s. a week, and the employers recently offered to give that sum for eight months of the year and 30s. for the remaining four. It has been arranged that the men shall receive 31s. per week during the coming winter (from November to February), and afterwards 32s. week.

Manchester.—As to the joiners' strike, the *Manchester Examiner*, July 25, says,—"We are informed that the weekly meeting of the employers was held last night at the Palatine Hotel. It was stated that not a single member of the Association of Masters has given the advance demanded; that all are working unanimously and cordially together; and that they are determined to stand by one another. It was also said that more men are now receiving strike pay than at any time since the commencement of the strike; that the masters are getting fresh joiners into the town every day; and that by the end of the week almost every employer will be supplied with non-society foremen of a superior class." It is stated that there are 850 men still out on strike in Manchester and district, and they are receiving a guinea a week as strike pay.

Wolverhampton.—We learn from the *Wolverhampton Chronicle* that the master-builders of this town have almost recovered from the inconvenience occasioned them some weeks ago by the strike of their carpenters and joiners for an advance of ½d. per hour. All the shops are well supplied with first-class workmen, obtained for the most part from distant towns, who have accepted engagements at the old rate of wages. Although the full complement of men required in all the cases has not yet been obtained, applications are being received almost daily from men applying for engagements. At a meeting of the carpenters and joiners on strike, resolutions were passed "condemning the underhand way in which the employers are bringing men into the town, and also the manner in which they are paying the advance." The men state that several of the employers belonging to the association have acceded to the men's demands. The men were unanimous in strictly adhering to the former resolutions "they have passed demanding the ½d. per hour advance and no surrender."

Aberdeen. — The union masons at Messrs. Legge's have been out on strike for about eight weeks. They want an advance of ½d. per hour,—from 7½d. to 8d. There is no sign of a settlement, though some of the union workmen have broken with the union and resumed work on the old terms.

The Strike of Railway Men in America.—The strike of railway workmen in America, against a proposed reduction of their wages assumed the character and more than the proportions of an organised insurrection. The railway workmen were joined by great numbers of other operatives out of employ, and of idle and discontented persons generally. They intercepted at several points the communication along all the chief lines of through traffic, and have taken absolute possession of more than one important town, and of several principal stations. They have encountered and defeated both State and Federal troops, denying to the flag of the Union that respect which, since the civil war, it has hitherto invariably received. Traffic has been suspended, and business seriously inter-

fered with. Miles of permanent way have been torn up, and much valuable rolling stock destroyed. We hope that such anarchy will never arise in this country. The loss has been very great, but the difficulties are now being overcome.

COMPETITIONS.

Scarborough Spa Buildings.—The *York Herald* understands that the directors of the Cliff Bridge and Spa Company have at length decided upon the plan to be adopted for the renovation of the Spa. As stated some weeks ago, four designs had been selected, from a number sent in, by Mr. Cockerell, who was appointed assessor for that purpose, and of these four the directors have selected the design furnished by Mr. T. Verity, of London, and that gentleman will be appointed architect to carry out the plans, supposing the shareholders approve the carrying out of the scheme. The other three architects whose designs were selected by Mr. Cockerell are awarded 60*l.* each.

Nottingham Church Cemetery.—The *Nottinghamshire Guardian* states that thirty-nine sets of designs for the erection of the proposed mortuary chapel have been sent in for competition in answer to the company's advertisements.

West Combe Park Estate, Blackheath.—Some time since the Midland Land Corporation offered three premiums of 150 guineas, 100 guineas, and 50 guineas for the three best designs for laying out for building purposes the West Combe Park Estate, Blackheath, Kent. The drawings, seventy-two in number, have been on exhibition this week at the Masonic Hall, New-street, Birmingham.

SALE OF THE SURREY MASONIC HALL.

On Tuesday last the recently-erected Masonic Hall in Camberwell New-road was sold by auction at the Mart, Tokenhouse-yard, by order of the mortgagees. There was a numerous attendance of Freemasons amongst others, and the proceedings appeared to excite considerable interest amongst the craft.

The interior of the structure was described as containing an elegant lodge-room, or temple, 31 ft. long and 22 ft. wide, fitted specially for Masonic purposes, and decorated with enriched pilasters and capitals, and pillared canopy recess for the Master's chair. Adjoining is a handsome banqueting-room, 31 ft. by 26 ft. The building also contains a public hall, 95 ft. long, 39 ft. wide, and 25 ft. high, with coved ceiling, decorated with pilasters, having capitals enriched with Masonic symbols. It was stated that at the present time fourteen lodges, two chapters, and two lodges of instruction, as well as the Surrey Society of Arts and several other bodies, hold their meetings there, and the property was announced to be sold subject to the right of these several Masonic lodges, societies, and other tenants who now use the hall, to continue such meetings. It was added that it was likewise used for public balls, concerts, and large meetings, and in the hands of an enterprising tenant might be rendered a very profitable undertaking.

The first offer made for the building was 3,000*l.*, and by advances of 100*l.* and 50*l.* at each bid the property was brought up to 3,650*l.*, at which it stood for some time, when the auctioneer remarked that it was not one-third of what the building cost only a year or two ago. He added that the vendors, of course, had placed a certain reserve upon it, which, however, was a very moderate one. A further offer of 50*l.* was then made, when the auctioneer stated that the property would not be sold, or rather "given away," if no further advances were made. The bidding then became more active, the property being run up to 4,600*l.*, at which sum it was knocked down to Mr. Sanson, surveyor and builder, of Kennington-road. It was, however, fully understood in the room that the building was bought for Mr. Oliver, of Camberwell, who was the contractor for the structure, and who has not yet obtained a settlement with the "Surrey Masonic Hall Company." The cost of the building was nearly 12,000*l.*

The Colorado Potato-Beetle. — Messrs. Hardwicke & Bogue have published a greatly enlarged view, coloured after nature, of this much-dreaded pest. It is of the utmost importance that its form should be known so that the insect may be detected on its first appearance.

THE CITY CHURCHES.

Sir,—Allow me most earnestly, as a Churchman and architect, to suggest, before the materials of the church of Allhallows, Bread-street, are carted off and sold as "old materials," that the above church (built of Portland stone and in sound condition) be carefully taken down and rebuilt with new internal fittings in some such populous district as named, viz., Shepherdess-row, St. Luke's, City-road, or Battersea Park-road, close to the new Model Buildings (just opened). In either of these districts thousands of people are without a church or clergy, like the heathen in foreign lands. This chaste design of Sir C. Wren would come out well, and be a great ornament to the neighbourhood, especially in the Battersea Park-road; there is a good skyline to bring the tower out.

It is bad enough that the necessity exists to take them down, but there is no earthly reason why, in case of their being built of good Portland stone, in good preservation, they should not be rebuilt in some populous parish. In case of brick erection it cannot be done.

If the materials of this church of Allhallows, Bread-street, be sold as "old materials" and not re-used, it will be a lasting disgrace to the City of London. Surely the way in which the church of St. Antholin, tower and spire (Budge-row, Queen Victoria-street), was treated,—a work not to be outdone by any work of modern skill,—ought not to be repeated. It was sold as old materials, though at least the tower might, if it had been left standing, have been an ornament to Queen Victoria-street for all future time. They may adorn with the most costly work the interior of St. Mary Aldermary (just opened), but it will never, in the sight of God and all true architects and lovers of the beautiful, atone for the evil work and destruction of the beautiful tower and spire of St. Antholin, Queen Victoria-street, taken down and destroyed for ever.

R. Payne.

THE WATER SUPPLY OF LONDON.

Sir,—I observe in your last number a quotation from the *Sanitary Record* which supplies a valuable and substantial confirmation to my letter, as I have since been often attacked as to the veracity of my statement about the rate being in advance. Whenever the truth of a matter comes out straight there are always a lot of people to be found who will not believe it. For instance, I have stated, over and over again, that farm labourers in the West of England often work for 6*s.* a week and a little sour cyder, and that their average is not 10*s.* Well, the majority of persons will not believe it; yet I saw the men at work last week, and they told me they only had 6*s.* for working six days and a half! Well, this may be a digression; but I want to show that the public are so fond of taking a rose-coloured view of things, that they will not have the truth if they can help it.

Now, respecting the Chelsea water case, or rather the case of absence of water. I received a letter from Mr. Albert Gill, secretary to the waterworks of that district, in which he says,—"The company never cut off water for rates due in advance;" and then he appeals to my "sense of justice to let it be known that the company do not act so inconsiderately as has been represented." But I have by me the last receipt of the water-rate in question, and I beg to hand you a copy of the same. It reads thus:—

"Walton-street.—Four Quarters.
20th April, 1876.

Received of Mr.——

Two pounds four shillings for 4 quarters' water-rate to *Midsummer*, 1876, for the Governor and Company of Chelsea Waterworks. 2*l.* 4*s.*

W. C. Briscoe, { Collector.
Office, 8, Sloane-st. Chelsea, S.W."

Well, Sir, as a man of business, I am bound to say that this looks very much as though they do cut off water for rates in advance. In the late case the water was cut off on the 9th of May for rates not due till the 24th of June. But not to make any mystery of the matter, permit me to point out what is the exact mode of operation on the part of water companies. First, they make a rate in advance. Then they worry people until they have paid it, and the result is that three parts of the water in London are paid for before being used. I, however, have a great objection to payment in advance. I never pay in advance if I can help it. I therefore wait until the end of the period before they get my cheque. Of course I get very much bothered, and at last I get insulted. I get threatened that if I do not pay I shall have a man sent into my house to commit an act of violence and destruction. Then I pay. But if I did not, or could not do so, what would be the consequence? Why, they would saddle me with two quarters' more rates as a punishment for not having paid in time. So that a poor man who has to allow the water to be cut off is bound to pay so much in advance on account of his poverty. This was precisely what happened in Walton-street, and I repeat that it ought not to happen in any crowded neighbourhood, for the sake of the health of a whole district,—and I further say it ought not to happen at all, for the sake of the liberty of the citizen. I say that water companies and gas companies ought to take out county-court summonses like other trades-people, and if the bailiffs can get hold of the defaulters' property let them do so, but never let the companies take the law into their own hands by throwing large households in darkness and decimating the population by disease.

I want to know why it is that these companies are so much taken care of by all our public bodies. Who are their guardians in the Metropolitan Board of Works, for instance?—the wonderful Board of Works with all its paraphernalia and frightful expense. How is it that we have never had so much as the shadow of a shade of a proposal from the Metropolitan Board of Works for amending the gas and water supply of London? Who are the wire-pullers of our vestries and municipal boards, but the shareholders of these companies and their advocates?

Sir, in conclusion, I desire to compliment your valuable organ on the great power it possesses. Why, my letter had not appeared in your columns six hours before the Chelsea Water Company restored the water supply to the house I complained of, without asking for one penny. If the water was righteously cut off, why was it put on the very day my letter appeared? But, I regret that neither you nor I can do good without doing some amount of harm. The poor family whose case became public through your columns were almost immediately afterwards turned out of house and home, and thus the vengeance of the water company, the landlord, and the authorities was wreaked on the unfortunate family, simply because I exposed their shortcomings.

G. Mitchell.

WIRE DOORS.

Sir,—It is intended to place a wire door in our church as a means of constant ventilation, but before one is ordered, will you kindly allow me, through the *Builder*, to ask what kind of door is found to answer best?

The required door is to be an inner one, so that on opening the large outside doors, the church will be secured against intrusion, and at the same time air will be freely admitted.

Both a wire door and an open-work wooden one have been suggested, and any experience of both will be valuable.

The situation of the church is especially exposed, and it will be important in stormy weather to guard against draughts during service.

In order to this, a heavy curtain has been suggested, but should there be any simple inexpensive contrivance as part of the door, of the nature of a shutter which could, during service, close the open wire or wood work, it might be preferable to a curtain, from the latter being liable to be blown about.

Q. Q.

CHURCH-BUILDING NEWS.

Milton.—After considerable alteration, Milton parish church, Northants, which is dedicated to the Holy Cross, was re-opened on the 12th ult. The old roofs of the nave and both aisles have been renewed in pitch pine, with spandrel pieces and wall-posts resting on stone corbels, those in the nave being carved on the face. The whole church has been re-seated in pitch pine. Two of Porritt's stoves have been adopted for heating purposes. The whole of the works, including the chancel, have been carried out according to drawings prepared by Messrs. E. F. Law & Sons, of Northampton, and under their superintendence. The works of the chancel have been executed by Mr. Asplin, of the village of Milton, and those of the church by Mr. Gee, of Daventry. The carving was executed by Mr. Phillips, of Northampton. The cost of the entire restoration, including the chancel, &c., will be about 2,800*l.*

Pevensey.—At a meeting of the Pevensey Church Restoration Committee on the 19th ult., it was decided to carry out the restoration of the nave, and the tender of Messrs. Franklin, of Deddington, near Oxford, for 2,802*l.* was accepted. Mr. Gilbert Scott, jun., is the architect.

Coventry.—St. John's Church, Coventry, was re-opened on the 17th ult. by the Bishop of Worcester. The church was closed in September, 1875, and since that time workmen have been engaged in carrying out the works, from the designs of Sir Gilbert Scott. The work now completed embraces the external renovation of the nave and its aisles; the internal repair of the whole structure; lowering of the floors to their ancient level, 4 ft. 6 in. below their recent position; the opening of the lantern tower, and the erection of a new vestry. The flooring is of English oak, and the passages have been tiled by Godwin, of Hereford. The amount of the present contract is 5,400*l.*

Northleach.—The ancient church of Northleach, Gloucestershire, is to be restored. It is a Perpendicular structure, and consists of a chancel, nave, and north and south aisles, with a well-built, lofty, embattled tower, containing a peal of six bells. According to Rudder, the south chapel was built in 1489 by William Bicknell. The state of the building has for some time been regarded by the inhabitants as anything but satisfactory. The seats are old, high, comfortless boxes, and the roofs are in bad order, especially those of the nave and the north aisle. Mr. Brooks, architect, of London, has been consulted, and will report on the works required to be done.

New Malden.—On the 3rd ult. was laid the memorial-stone of a new chancel to the parish church, to be erected by and at the sole expense of the family of the late Mr. John Coysgarne Sim, of Coombe Wood. Under the direction of Mr. Ewan Christian, architect, a contract has been entered into with Messrs. Goddard & Son, builders, of Farnham and Dorking, for the lengthening of the nave towards the east by one arch, whereby seventy-five additional sittings will be secured, at a cost of about 689*l.* The building of a commodious organ-chamber, and the enlargement of the present small and inconvenient vestry, also form part of the committee's programme.

Chelmsford. — The work of restoring the chancel of St. Mary's Church, Chelmsford, has been commenced. The restoration is being carried out by the Archdeacon and his family, who have entrusted the superintendence of the work to Mr. A. W. Blomfield, architect. It is proposed to take down portions of the existing chancel and restore it thoroughly, raising it to the height of the new north transept, and lighting it from above with clearstory windows at an elevation nearly equal to that of the clearstory

of the nave. The existing three-light eastern window, which was erected in memory of the late Lady Mildmay, will be respected so far that it will be used as the nucleus of a fine five-light window, which will be more in proportion with the dimensions of the chancel when it leaves the builder's hands.

Haileybury.—A new chapel has recently been consecrated at Haileybury College. We learn from the *Herts Mercury* that the chapel has been built in accordance with the plans proposed by Mr. Blomfield, the architect, some years ago. Mr. Blomfield felt that the chapel should be made the great central feature of the college buildings on almost every ground, the only reason which the opponents of his plan could urge against it being that no chapel could be satisfactory unless Gothic, which a building incorporated with Wilkins's Classic façade could not possibly be. The chapel, as constructed according to Mr. Blomsfield's plan, now forms the centre of the buildings, with a dome 120 ft. high and 40 ft. in diameter, rising over the principal portico of the southern façade. Considerations of economy, and the use of brick instead of stone, prevented the employment of a pure Classical style, which might have accorded in a more complete manner with the details of the façade, but seeing that the main portion of the new building stands within the quadrangle, which is of plain brickwork, and entirely without architectural character, considerable freedom of treatment seemed admissible. In plan the chapel is cruciform, the longer and southern arm of the cross occupying the position of the former library; the altar stands in an octagonal apse, which forms the northern arm. The total length internally is 104 ft., and the width across the transepts is 64 ft. The building is seated for 500 boys and 100 adults, including masters' seats; the whole of the fittings are of oak. The contractors were Messrs. Dove, Brothers.

Banbury.—Banbury parish church has been undergoing alterations and improvements for a considerable time past, and upwards of 5,000*l.* has been expended upon it. A new chancel was built by Messrs. Davis Brothers, at a cost of nearly 2,000*l.*, and it was decorated by Messrs. Heaton, Butler, & Bayne, the expense of which was 1,000*l.* A new organ has also been erected at a cost of 1,000*l.*; and Miss Back presented a font at a cost of 200*l.* 1,500*l.* have been expended in putting stained-glass windows into the church. Mr. Arthur W. Blomfield was the architect.

Alderley.—Although about 800*l.* were expended two years ago in repairing the dilapidations which time had wrought in its fabric and furniture, Alderley Church is again in the hands of the masons and the carpenters. The old, uncomfortable pews, with their narrow seats and high backs, have been removed at the initiation of the rector. On removing the old pews, it was discovered that the foundation-stones of the piers supporting the church had given way, and the superincumbent weight forming an uneven pressure had crushed the bases of the columns into fragments, and had also broken and displaced the foundation-stones. The church was imminently dangerous, and might have fallen at any moment. The walls are found to be greatly shattered by the sinking of the pillars. They have, however, been successfully removed and replaced, under the care of Messrs. Paley & Austin, architects, Lancaster. The lowering of the floor to its old level will add much to the apparent height of the building.

Ashton Keynes.—The church of the Holy Cross, Ashton Keynes, Gloucestershire, has just been re-opened, after restoration under the direction of Mr. W. Butterfield, architect, the work being carried out by Mr. William Restall, of Bisley. The Norman chancel-arch has been raised from each spring and widened. In taking down the arch, six old stone coffin-lids were found embedded in the walls, with the evident design of binding the arch, so that they must have been, at some distant period, removed from their first position and economically applied to strengthening the arch. Choir-stalls of oak and walnut have been placed in the chancel, and the latter has been paved with encaustic tiles. The chancel ceiling has been decorated, the roof being set off with carved and gilded oak bosses. The decorations were executed under Mr. Butterfield's instructions, by the same artist who was entrusted with the decoration of Keble College, Oxford. The whole of the windows have been restored and re-glazed. At the east end of the north aisle a new oak screen has been erected, dividing the (at present vacant) organ-chamber from the vestry, and a new doorway has been opened from the north wall into the vestry. A similar doorway on the opposite side of the church has been built up. In the process of cleaning the walls the remains of an old fresco-painting were found over the vestry door on the north wall. The painting was supposed to be a representation of the Trinity, but it was so imperfect that it had to be destroyed. The roof has been cleaned and restored throughout, the old timbers, which were in good order, and which contain some fine specimens of carving, being retained. The total cost is estimated at 2,050*l.*

DISSENTING CHURCH BUILDING NEWS.

Cotham.—The memorial stones of a new Wesleyan chapel at Cotham, Bristol, have been laid. The building, which is being erected from the designs of Mr. R. Curwen, jun., Liverpool, is Early Gothic in style, and will be constructed of Pennant stone from the Stapleton and Hanham quarries, with freestone and Westwood stone dressings. The interior dimensions will be,—length, 66 ft. 3 in.; width, 45 ft. 3 in.; and height from the floor to the pitch of the roof, which will be boarded and panelled, 48 ft. Inside the building a gallery will run round three of the sides; and at the north end will be an organ-chamber. The whole of the fittings in the interior will be of pitch pine. The building will accommodate 800 worshippers. Attached to the south end of the structure, and connected with it by a corridor, will be a building intended for Sunday-school purposes, and accommodating 450 children. The contractors are Messrs. Stephens & Bastow, and the clerk of works is Mr. George Dalton.

Canterbury.—A new Congregational church has lately been opened at Canterbury. The building has been erected from the designs of Mr. J. G. Hall, the city surveyor, and is in the Early Decorated style. The front, which abuts on Guildhall-street, is of Kentish rag facing, with Bath stone dressings, and consists of a gable, pierced with a five-light window, flanked by two slender spires, one on each side, rising to a height of about 80 ft., and acting as buttresses to the main gable. Under the window is the entrance,—a three-arched doorway, divided into compartments by polished granite columns with carved stone caps. The main body of the building is of brick, and will accommodate 750 worshippers, inclusive of 290 in the galleries. It is rectangular in shape, 64 ft. 6 in. by 47 ft., with a school-room at the north-east, and vestries for the minister and deacons on the opposite side. The work has been carried out by Mr. J. G. Naylar, of Rochester, whose contract was 4,122*l.*, exclusive of heating and lighting, for which separate contracts have been made with Messrs. Drury & Co. and Mr. Tice. These, with other expenses incurred, bring the probable total outlay up to 5,500*l.*

Liverpool.—The Presbyterian church in Prince's-road, Liverpool, has been re-opened, after enlargement and almost entire rebuilding. The building is in the Gothic style, of dark red bricks, with Stourton-hill stone dressings. Sitting accommodation is provided for 700 persons. The ceiling is of pitch pine. There are two large stained glass windows, executed by Messrs. Shrigley & Hunt, of Lancaster. The church was originally designed by the late Mr. H. H. Vale, whose death occurred at the commencement of the work, when Mr. G. E. Carroll was selected as his successor, to superintend the erection of, and prepare designs for, large additions and alterations to the church.

Newport (*I.W.*).—The Congregational chapel in St. James's-street, Newport, has been re-opened, after internal decoration and the addition of an apsidal recess for the organ. The floor of the chapel generally has been repewed, the old square pew-doors having given way to modern bench ends of Gothic character. The gallery, too, has undergone considerable alterations. The roof of the chapel inside has been coloured a light blue tint, and the timbers a marone colour, with black and gold relief. Most of the structural work has been carried out by members of the church and congregation. Mr. J. E. Snellgrove, of Newport, was entrusted with the painting and decoration. The work is estimated to have cost about 1,100*l.*, and it has been done under the supervision of Messrs. Searle, Son, & Hayes, architects, of London.

Spondon.—A new Wesleyan Chapel is about to be built at Spondon, Lincolnshire. The architect is Mr. E. Fryer, of Derby. The contracts have been let to Mr. J. Maddocks for the building, and to Messrs. Kirklands for interior fittings. The schoolroom will accommodate 250 children, and the chapel 220 worshippers. The total outlay is to be 800*l.* The schoolroom is being built upon a piece of ground behind the present chapel.

Manchester.—The corner-stones of the new Primitive Methodist Church, Higher Ardwick, have been laid. The foundation-stones of the church were laid in January last, and the building is expected to be completed in January next. It is to be built of brick, with stone facings. The cost is estimated at over 6,000*l.*, making, with the cost of the school and the minister's house, over 10,000*l.* Accommodation is to be provided for 1,000 persons.

Alderbury.—A new Wesleyan Chapel, which has been erected on the site of an old one at Alderbury, Wilts, has been completed and opened. The building has been erected by Mr. Charles Bryant, of Pitton, at a cost of 270*l.*

Tewkesbury.—On the 4th ult. the four memorial stones of a new Wesleyan chapel at Tewkesbury were laid with the usual ceremonies, in the presence of the Mayor (Capt. Price, M.P.) and Corporation of Tewkesbury. The site is one of the best in the town for a public building, and was formerly occupied by the old Market-house. The chapel will be about 60 ft. long by 32 ft. wide; the roof is of open timber, the western end being occupied by a gallery, and the east end terminating in an apse. The front elevation, the only part of the exterior visible from the street, will be of Stanway-hill stone walling, with Bath stone dressings. The design is effectively treated in the style of the fourteenth century. The old chapel in the town was opened by the Rev. John Wesley just a century previously to the date of the stone-laying of the new chapel. The architect is Mr. Charles Bell, of London. The contract has been undertaken by Mr. Thomas Collins, of Tewkesbury (the builder engaged on the restoration of Tewkesbury Abbey Church), and the quantities were prepared by Mr. H. Lovegrove, of London.

ROMAN CATHOLIC CHURCH-BUILDING NEWS.

Wigan.—The foundation-stone of St. Joseph's new Roman Catholic Church, Caroline-street, Wigan, was laid on the 8th ult. In October, 1870, Father Lamon was appointed to the mission, and in the following January service was held in a small chapel formerly belonging to the Primitive Methodist body, and capable of holding about 150 persons. In April, 1872, the Church of St. Joseph, which occupied the same site as the small chapel, was opened. This was erected at a cost of over 2,000*l.*, and accommodation was provided for between 500 and 600 worshippers. In 1874 new schools were built, at a cost of 5,000*l.*, and these have now an average attendance of 800 scholars. The church not being large enough for the increasing number of attendants, it was determined that a new building should be erected, and this will stand on the same site as the present building, which will be entirely removed. Additional land has been purchased, and the contract has been let to Mr. Joseph Wilson, builder, Wigan, the estimated cost being 6,000*l.*

St. Helens.—The Roman Catholic Bishop of Liverpool (Dr. O'Reilly) has laid the foundation-stone of a new church at Peasley Cross, near St. Helens. There is a large Catholic population in the neighbourhood, and the temporary chapel which was built in 1862 has been found inadequate for the wants of the present day. The new church will cost about 6,000*l.* It will be a large modern Gothic brick building, 100 ft. by 56 ft., and will afford sitting accommodation for about 700 persons. The architect is Mr. James O'Byrne, of Liverpool.

The New Class of Honorary Associates at the Institute of Architects.—We desire to remind our readers that the new class of Honorary Associates has been established for the purpose of admitting to the ranks of the Institute gentlemen who, without following architecture as a profession, desire to enjoy the privileges of membership. The class will consist of amateurs, men of science, archæologists, and artists, who are not engaged in the prosecution of any branch of building as a trade or business. We recognise the advantage of recruiting the ranks of the Institute by the admission of non-professional members, and trust that the arrangement will be taken advantage of by many qualified persons.

SCHOOL BUILDING NEWS.

Seacombe.—On the 9th ult. the memorial stone of new schools connected with St. Thomas's parish church, Seacombe, was laid by Mr. T. Cookson. The site of the schools (which are the gift of Mr. Ed. Hatton, a Liverpool merchant) is in Bedford-place. The building will consist of three separate schools, — boys', girls', and infants',—and will cover an area of about 4,000 yards. It is estimated that the cost, exclusive of the site, will be over 4,000*l*. The building will be entirely of brick, specially moulded, the style of architecture being Gothic. The builders are Messrs. W. & G. Johnson, of Seaforth, and the architect is Mr. Henry Hartley, of Liverpool.

Halsted.—The new schools in connexion with St. Andrew's Church, Halsted, intended to supplant the old national schools in Head-street, have been formally opened. The new schools are situate in Colchester-road, and have cost about 2,800*l*., the entire expense being defrayed by the family of the late Rev. Dr. Adams, vicar of the parish. The work was executed by Mr. Harcourt Runnacles, builder, of Chelmsford.

Owlerton.—On the 16th ult. two memorial-stones for a Wesleyan school-room at Owlerton were laid. The site is immediately adjoining the new chapel, and the building will consist of two rooms, which will together accommodate about 400 children.

Lochee.—The congregation of St. Mary's Roman Catholic Church, Lochee, have just erected a girls' school. It adjoins the old schools, and has a frontage to Burnside-street and St. Mary's-lane. It is two stories in height. The following were the contractors for the work: Mason work, Croll & Pirie; joiner, Willison & Laing; plasterer, Mr. M'Ritchie; slater, Mr. Buttars (all of Dundee); plumber, Mr. Masterton; painter, Mr. James Stewart (Lochee). Mr. Blackadder, Dundee, was the architect.

THE MASONS' STRIKE IN LONDON.

In the case of this strike, already mentioned, the operative masons have struck work generally for two distinct objects. First, the shortening of the hours of labour from fifty-two hours and a half per week in summer-time, as now worked, to fifty hours per week. As to this the master-builders object that the hours of labour having been already reduced within the last few years from sixty hours per week to fifty-two hours and a half, the reduction has gone far enough. Secondly, the operative masons require a general rise of 1d. per hour for all—viz., from 9d. to 10d. per hour, without regard to the skill and ability of the operative. This, also, the master-builders have declined.

It has been reported to the masters that the operative masons, by means of levies, &c., among their society, have a large fund in hand for the present strike. Moreover, that if the rise of 10d. per hour had been granted, very early notice of a further rise to 11d. and then to 1s. per hour would have been given. There seems, therefore, very little hope of masons' work being actively resumed in London till a great deal of money has been wasted. A correspondent suggests that it now becomes the duty of architects, and of those engaged in building operations, to strive in every way to reduce the amount of masons' work, as far as possible, by the substitution of other material.

ART UNION OF LONDON.

REMAINDER OF THE PRINCIPAL WORKS SELECTED BY THE PRIZEHOLDERS.

From the Royal Academy.—The Way through the Wood, G. Wells, 200*l*.; Tempting Waters, E. H. Fahey, 200*l*.; Music hath Charms, R. J. Gordon, 100*l*.; Uneasy lies the Head that wears a Crown, J. C. Dollman, 80*l*.; On the Lake of Orta, Harry Johnson, 75*l*.; A Stitch in Time, H. King, 70*l*.; What will He do with It, J. L. Pickering, 63*l*.; Flowers, W. J. Muckley, 60*l*.; Breton Peasant Girl feeding Ducks, W. L. Picknell, 50*l*.; A Hundred Years ago, Tom Lloyd, 45*l*.; May Queen (marble), George Halse, 42*l*.; Daybreak on the Atlantic, Robt. Leslie, 42*l*.; Quiet Quarters, F. E. Bodkin, 40*l*; The Black Pool, Odiham, Hants, A. C. Sealy, 40*l*.; By the Brook-side, N. O. Lupton, 40*l*.; L'Immortelle, W. H. Weatherhead, 35*l*.; Glenfalloch, G. V. Sheriff, 25*l*.; From Holmbury Hill, Surrey, Arthur Clay, 21*l*.; After Rain, C. Collins, 20*l*.; Sunday Morning, H. Hume, 20*l*.; He's not coming, F. S. Walker, 20*l*.

From the Society of British Artists.—Lovers Beware, A. F. Patten, 65*l*.; Disarmed, C. Cattermole, 50*l*.; The Image of his Father, T. Roberts, 50*l*.; A Rustic Scene—Evening, E. J. Cobbett, 50*l*.; The Shrimper, E. Hume, 45*l*.; Autumn, W. J. Muckley, 45*l*.; Near Richmond, F. W. Cartwright, 45*l*.; A young Gleaner, E. J. Cobbett, 45*l*.; Bridge over the Stour, Iford, J. W. B. Knight, 35*l*.; Teaching Brother, Walter Bromley, 30*l*.; Heavy Laden, J. T. Peele, 25*l*.; Bordeaux from La Bastide, J. L. Vychen, 25*l*.; The Midday Drink, J. C. Waite, 25*l*.; At Burnham Beeches, F. Muschamp, 25*l*.; Colours of the Buffs at Albuera, F. S. Secombe, 25*l*.; Oh! dear, what can the matter be, &c., W. H. Weatherhead, 20*l*.; A Busy Hour, West of Ireland, F. G. Kinnard, 20*l*.; Snowdon, from Capel Curig, D. Law, 20*l*.

From the Crystal Palace Picture Gallery.—A Mother's Sacrifice, A. Ludwig, 100*l*.; Forest in Spring, J. Wenglein, 50*l*.; The Bend of the River, G. Wells, 45*l*.; On the Borders of the Stornbergers, Bavaria, J. E. Steffan, 40*l*.; Italian Landscape, H. Lewis, 35*l*.; Spring Morning, H. Baisch, 34*l*.; On the Coast, Moonlight, T. S. Croxford, 25*l*.; The Farmer's Pets, A. Corbould, 20*l*.; Country Vanity, J. M. Bowkett, 20*l*.; Near Pembridge, Isle of Wight, W. J. Roffe, 20*l*.; Work and Play, C. J. Gripps, 20*l*.; Happy Hours, A. Stevens, 20*l*.

From the Institute of Painters in Water Colours.—Volendam under a Cloud, T. W. Wilson, 31*l*. 10*s*.; Laid up in Ordinary, W. W. May, 25*l*.

From the General Exhibition of Water Colours.—Corry-na-Creagh, Skye, D. Law, 40*l*.

STAINED GLASS.

Calverley.—A stained-glass window to the memory of the late Rev. Alfred Brown, vicar of Calverley, is about to be placed in the parish church. Messrs. Clayton & Bell have been commissioned to execute the work.

East Bergholt.—We learn from the *East Anglian Daily Times* that a stained-glass window has just been placed in the parish church of East Bergholt, to the memory of John Constable, R.A., who was born there. The window is the result of a subscription among admirers of the great painter, and is a production of his namesake, Constable, of Cambridge. The memorial is the middle one of the large windows on the south side of the church, between the porch and the south chapel. The subject of the lower central division of the window is founded on the story told by ancient writers, that St. Luke had painted portraits of Christ and His Mother. St. Luke is represented in a sitting posture, and engaged in the act of taking the likeness of the Virgin, with the infant Saviour on her knee. The other two lower compartments are filled with scenes connected with John the Baptist and John the Apostle. In the lower western, is the beloved Apostle, after our Lord's crucifixion, taking the Virgin away to reside in his house. The upper part of the window is filled with a representation of the Ascension, extending over the three large compartments.

Fulham (London).—The central apse window of the Church of the Servite Fathers, Fulham-road, Brompton, has recently been filled with stained glass, designed and drawn by Mr. W. Tipping, of West Brompton, and executed by Messrs. Clayton & Bell. It consists of three lights and tracery. The centre light is canopied, and represents the Crucifixion, with "pieta" in base. The side lights are also canopied, and contain "Presentation," "Flight into Egypt," "Finding in the Temple," and "Death of St. Joseph."

Salisbury.—A small window has recently been placed in the tower of St. Edmund's Church, representing the St. Edmund, Archbishop of Canterbury, and once Canon and Treasurer of Salisbury Cathedral, to whom the church is dedicated. The glass is by Messrs. Clayton & Bell.

Oswestry.—Two memorial windows, by Messrs. Clayton & Bell, of London, have been placed in the parish church of Oswestry. One, in the south aisle of the chancel, has been given to the church by the sons of Mr. Salwey, in memory of their father's long connexion with the parish as vicar. The subject is Christ feeding the multitude. The other, the west window, has been placed in the church by the Misses Croxon, to the memory of the late Richard Croxon, and Frances, his wife, and the subject of it is our Lord's appearance to His disciples after the Resurrection.

Miscellanea.

The Working Men's Club and Institute Union.—The annual conference of friends and representatives of working men's clubs and institutes took place, on the 21st ult., in the theatre of the Society of Arts. The chair was occupied by Mr. Stansfeld, M.P. A paper by Mr. Graveson, Bowness, was read, suggesting that banking might be undertaken by the Union, greatly to the advantage of the working men. Another paper suggested that intemperance amongst working men might be greatly checked by greater vigilance in preventing the adulteration of food and drink. Mr. Allerson suggested the organisation of an excursion to the Paris Exhibition next year. About 3,000 working men had visited the Paris Exhibition of 1867, under the direction of Mr. Pratt. Mr. Lowe had one objection to urge against a workmen's bank, and that was that the working men had no money to put into it. This was the worst year the working men had seen for a long time; so bad that he saw no hope of saving money for an excursion to the Paris Exhibition. As to the cultivation of literature in the clubs, his opinion was that, in this pushing, driving, steam-engine age, working men were too much exhausted by their day's work to take to intellectual studies in the evening. Mr. Symons, on the contrary, thought that working men were at the present moment more anxious for mental culture than ever. It was the present teaching-machinery which was in fault.

Typhoid Fever in the Prince of Wales's Household.—Prince Albert Victor of Wales, the heir presumptive, is now, as our readers are aware, suffering from typhoid fever,—the third of his line who has been thus afflicted within a period of sixteen years. The fever was, it is believed, contracted at Sandringham; and this is a circumstance which will, of course, require careful local sanitary investigation. Typhoid fever being essentially a preventable fever, due to causes which, by perfect sanitary arrangements, may be held at bay, it is, we believe (says the *British Medical Journal*), proposed that Dr. Seaton, the head of the medical department of the Local Government Board, shall make a searching examination of the water supply and other sanitary arrangements at Sandringham. Since the serous illness from typhoid fever of his Royal Highness the Prince of Wales the water supply of Sandringham has been remodelled at considerable cost and trouble. It is stated, however, that at the time of the recent visit of the Prince and his family for some days to Norfolk, the works connected with the newly-arranged water supply were out of order, and recourse was had for a while to the source from whence the water was drawn prior to the Prince's purchase of the estate.

Bolton Abbey.—A stone altar-screen in the Perpendicular style has just been erected in Bolton Abbey at the sole expense of the Duke of Devonshire. At the time of the Dissolution, when the Abbey lands were sold to the ancestors of the Duke of Devonshire, the nave was retained as a place of worship, and has so continued to the present day, whilst all the rest of the building was suffered to fall into ruin. During the last twenty years the interior of the nave has undergone a complete restoration at the sole charge of the Duke. The entire area has been filled with massive open oak seats; a stone pulpit, a desk, and font have been provided, and the ancient rood-screen has been repaired and placed at the west end of the building. The work of restoration has been completed by the removal of the unsightly wall at the east end of the nave, and by the erection in its stead of the new screen. It is about 40 ft. in height and 30 ft. in width, and is divided into eleven equal compartments with ornamental capitals, corresponding in design with the outer screen of the great west tower of the Abbey.

The Newington-Butts Improvement.—Last week the Newington-Butts improvement was formally inspected by Sir James Hogg and the members of the Board of Works. At the conclusion of the inspection the street was handed over to the care of the Vestry of St. Mary, Newington. The old parish church of St. Mary, Newington, has been completely removed, together with a part of the ancient churchyard and several adjacent houses, and the road widened in front. The total cost of the improvement, including 5,000*l*. towards the rebuilding of the church, amounts to close upon 12,000*l*.

St. Werburgh's Church, Bristol.—We learn from the *Bristol Times and Mirror* that the plans of Mr. J. Bevan, architect, Bristol, for the removal and re-erection of St. Werburgh's Church in Mina-road, have been accepted, and there is every probability that the work will commence very shortly. "The old materials will be used as far as practicable, and the style will, it is said, be maintained intact, with one or two slight exceptions. Chief among these is an important addition to the ornamental pinnacles on the grand old tower. In his notice of the building, the historian Barrett says of the tower:—"It was built with pinnacles at the corners, 10 ft. high, with copper vane on each, and in the centre a curious hollow-worked pinnacle, about 20 ft. high, with a golden ball and weathercock." The "curious hollow-worked pinnacle" of which the historian speaks has disappeared, but after a great amount of laborious research, and a thorough and very careful examination of the tower, Mr. Bevan has no doubt that it at one time existed, and although, of course, he has (according to our contemporary) had to draw on his imagination to a great extent to realise its precise character, he has introduced one in his new plans which is in perfect harmony with the style of the remaining pinnacles, and with the loftier ones frequently used at that period. The architect has also taken the liberty of introducing a slight alteration in the upper parts of the windows by adding additional mullions, thus bringing them into closer accord with the style of the earlier period of the church's history. At present the nave consists of only four bays, and one will be added, giving an additional length of about 13 ft. to the church. The new building will be 106 ft. in length by 59 ft. in width, and by a re-arrangement of the pews will accommodate about 600 worshippers. A chancel will be added, together with a good-sized vestry for meetings, and an organ-chamber. Underneath the north aisle will be a muniment chamber and crypt, the latter being intended for the reception of the monumental stones in the church and churchyard, and it will be lighted by windows in the foundation wall. The building will be heated by hot water, and the heating-chamber will be under the vestry."

The Wallace Monument at Stirling and its Architect.—At a public ceremonial on the Abbey Craig, Stirling, in September, 1869, the Wallace Monument was handed over to its permanent custodians. On the occasion a report was read in which much credit was assigned to the late Mr. William Burns, of Glasgow, and his friends, for completing the monument under difficulties; while it was stated that all costs were discharged save "one hundred pounds" due "for materials and to the architect." The report was received with cheers, in which Mr. J. T. Rochead, the architect of the structure, who was present, was remarked to join. Of course (says the *Dundee Advertiser*), all believed that his claim had then been mainly discharged; and as two collecting-boxes (one at the Craig and the other at Stirling) were not handed over, but retained by the committee, it was hoped that from these or other sources the "100*l.*" due "to the architect and for materials" would soon be fully settled. But a revelation has been made lately. Mr. Burns departed this life in August last, and up to the time of his decease Mr. Rochead had, with interest, a claim against the "Monument Committee" of 487*l.* 10*s.* It would appear from Mr. Rochead's statement that his claim altogether amounted to 737*l.* 10*s.*; but of this sum, before Dr. Charles Rogers, the original secretary of the committee, left Stirling in 1863, he (Mr. Rochead) had received payments amounting to 250*l.*, being the proportion due to him up to that time. Since Dr. Rogers's retirement in 1863, Mr. Rochead, it appears, has not received a single payment towards his commission.

Fall of Houses in Bethnal Green-road. In reference to the paragraph which appeared in last week's *Builder* (p. 771) as to the fall of houses in Bethnal Green-road, Mr. William Irons writes to say, firstly, that the person referred to as "Mr. Alfred Barker, of the firm of Irons & Co.," is not a partner (as might be inferred), but merely an *employé* of that firm; and, secondly, that he (Mr. Irons) had not commenced pulling down what he had bought, viz., the brickwork only, not having bought any lead or timber.

"Davy."—A new metal, according to the Paris *Golos*, has been found in platinum mines by a Mr. Kern, who has named it "Davy," in honour of Sir Humphry.

Height of Buildings in London.—In reply to Mr. P. A. Taylor, in the House of Commons, Sir J. M'Garel-Hogg said:—The attention of the Metropolitan Board has been directed to the buildings to which he refers near to St. James's Park. No inquiry has been made as to how far buildings of such height are calculated to injure the neighbours, who would, I apprehend, be able to assert their legal rights if injuriously affected as regards light and air. The rules of the Building Acts at present in force are calculated for walls up to 100 ft. in height, but where it is intended to exceed that height a discretionary power is given to the Board, which they have not felt justified in refusing to exercise in the present instance, having regard to the unusual strength and stability of the building. A Bill was introduced by me in 1874 which would have dealt with this question, but it did not receive the sanction of Parliament, and up to the present time the Board has not come to any resolution to renew their application for further powers.——At the meeting of the Metropolitan Board of Works, on the 27th ult., the Building Act Committee recommended that the application of Mr. F. Butler, for approval by the Board of a plan for the construction of buildings, to be named "Alexandra Mansions," in Victoria-street, Westminster, with walls exceeding in height the limit prescribed for dwelling-houses by the schedule of the Metropolitan Buildings Act, 1855, be not granted. The recommendation was unanimously approved.

Proposed Aquarium for Edinburgh.—A Scottish paper says that the Lord Provost's Committee have had before them the model of an aquarium which it has been proposed to construct in the Waverley Market, Edinburgh. The space underneath the gallery at the west end of the market is the part which it is intended to utilise, including the corner to the left of the Waverley Bridge entrance-gate, which is at present uncovered. The tanks, to the number of twelve, with an aviary in the centre, will be placed, according to the model, in a semicircle passing from side to side of the building. The former will measure from 10 ft. to 12 ft. in length by 7 ft. in breadth, and from 5 ft. to 7 ft. in depth. The aviary will be 35 ft. long by 7 ft. broad. A probationary tank and pump-room will be placed at the south end. Immediately behind the aviary, and in the north corner of the present open space, a seal-pond has been planned, measuring 30 ft. long by 35 ft. in breadth at the front, diminishing to 10 ft. at the back. The depth of water will be 5 ft. The cost, which is estimated at between 3,000*l.* and 4,000*l.*, will be met by a syndicate of gentlemen who offer to pay 200*l.* a year to the Town Council for the use of the building.

New Middle-class School for Girls.—The foundation-stone of a new middle-class school for girls, which the trustees of Lady Holles's trust, in the parish of St. Giles, Cripplegate, are about to erect, was laid on the 23rd ult. by Mr. Alderman Knight, chairman of the governors. The site is in Mare-street, Hackney, next to the Catholic Apostolic Church. The new school is to be built under a scheme of the Endowed Schools Commission, by which a sum not exceeding 7,000*l.* is set apart for the purpose. The building will afford accommodation for 250 scholars. The style of the new building will be Elizabethan, and the material red brick, with stone dressings. There will be all necessary class-rooms, day-rooms, &c., and a residence for the head mistress; and special provision is to be made for rooms to be devoted to the teaching of music, which will be fire-proof and sound proof. The building has been designed by Mr. Edmund Woodthorpe, the builders being Messrs. Bayes Brothers & Allen, and the clerk of the works Mr. J. Coleman. The cost will be about 5,500*l.*

A New Picture for Mr. Ruskin's Museum. Mr. Ruskin says:—I have secured a picture of extreme value that has been overlooked in the Manfrini Gallery; and clearly kept for us by Fors, as the exactly right picture on the possession of which to found our Sheffield School of Art. It is a Madonna, by Verocchio, the master of Leonardo da Vinci, of Lorenzo di Credi, and of Perugino, and the grandest metal-workers of Italy. And it is entirely pure and safe for us, but will need carefullest securing of the tempera colour on its panel before it can be moved; it cannot, therefore, reach Sheffield till the autumn.

A Proposed Transformation.—A proposal is being discussed for turning the Manchester Aquarium, which has been a failure financially, into a church.

A Crystal Palace for Birmingham.—The first statutory meeting of the Sutton Park Crystal Palace Company (Limited), has been held. The company was registered on the 2nd ult., the capital being 25,000*l.*, in shares of 5*l.* each. The company was established for providing a place of entertainment and refreshment adjoining Sutton Park, to supply the wants of the numerous visitors, and, according to the original prospectus, the company had the option of building a palace in Mr. Cole's Royal Promenade Gardens, and working it in conjunction with that gentleman, but the directors, after considering the matter, had become of opinion it was better to pay Mr. Cole out and acquire the entire gardens, and also to buy some adjoining land so as to build an entrance to the gardens near the Park Lodge and immediately adjoining the main road, and upon which ground they also desired to erect a suite of large refreshment-rooms. It is also intended to provide an aquarium and skating-rink.

Chilled Cast-iron Shot.—We have received a sample of a new material—chilled cast-iron shot—for sawing and surfacing granite and other stone. Several of the large London builders and Aberdeen and Cornwall granite quarry proprietors are now, we are told, giving it a trial. It is produced by suddenly separating into fine particles by mechanical means (the particulars of which have not reached us) a stream of molten iron, and allowing them to drop into a tank of water. The Patent Sand-blast Company say they have received from America several tons of the material, to be presented to any builders and others who may feel disposed to give it a trial.

A Fire at Venice.—Venice, in spite of its canal-streets, seems to have no efficient provision for extinguishing fires. A building full of valuable objects was all but reduced to ruins there a few days ago. The pumps could not be got to work, and no regular chain could be formed for a long time. The confusion was great, the want of discipline indescribable. The *Gazetta del Veneto* says:—"Let us provide, we repeat it, let not those whose duty it is forget that Venice is rich in monuments and masterpieces of art, in whose preservation and safety the whole of the civilised world is interested. Let us, above all, not forget the fire of 83. Giovanni e Paolo."

City Commissioners of Sewers.—At a meeting of the Court of Sewers on the 24th ult., upon a memorial from the rector, churchwardens, and parishioners of the parishes of Allhallows the Great and Less, requesting that the vote of 4,000*l.* for improvements in Upper Thames-street, by laying into the public way the site of the tower and vestibule of Allhallows, be increased, it was resolved, under certain contingencies, to add the sum of 500*l.* The salary of Dr. Sedgwick Saunders, medical officer of health, was increased from 500*l.* to 700*l.*

Cork Improved Dwellings Company.—At the half-yearly meeting of this Company, just held in Cork, the directors' report showed that for the half-year there was a net balance of profit of 401*l.*, out of which the directors recommended the payment of a dividend at the rate of 6 per cent. per annum, carrying forward for the half-year 104*l.* to the reserve.

Land in the Poultry.—At the last meeting of the Commissioners of Sewers for the City of London, the Court received tenders for the purchase of the freehold ground-rent of 75*l.* and reversion in respect of the premises No. 38, Poultry. The Court accepted a tender amounting to 19,280*l.*, being equal to 25½ years' purchase.

Shute's Patent Mitre Cutter.—We are asked to say that in the advertisement of this machine (which appeared in our last number) Messrs. F. W. Reynolds & Co., of Southwark-street, omitted to state that they continue to send this machine on one month's trial.

Silver Flagon, Elland Church.—A memorial has just been given to Elland Church in the shape of a silver flagon for the Holy Communion service. It has been made in London from the designs of Mr. W. S. Barber, architect.

The Manchester Water Supply.—The scheme for supplying Manchester with water from Thirlmere has been formally sanctioned at a meeting of the ratepayers, called pursuant to the provisions of the Borough Funds Act.

Architectural Association.—This year's (the eighth) excursion, will be to Warwick and the neighbourhood, commencing on Monday, August 13th, and terminating on the following Saturday.

TENDERS.

For additions to the Civil Service Store, New Oxford-street. Mr. Josiah Houle, architect:—

Adamson & Son	£8,400	0	0
Patman & Fotheringham	8,050	0	0
Scrivener & White	7,998	0	0
Sewell & Son	7,784	0	0
Morter	7,777	0	0
Langmead & Way	7,300	0	0

For the erection of the Beach Mansions, St. Helen's-parade, Southsea. Messrs. Archibald Ford and Alfred Hudson, joint architects:—

W. R. & C. Light	£22,655	0	0
Bramble Bros.	21,550	0	0
Burbidge	21,213	0	0
Ward	20,453	0	0
Cooper (accepted)	19,129	0	0

For new building, alterations to old building, and boundary-walls, at Alexandra Schools, Penge, for Beckenham School Board. Mr. Alexander B. Stenning, architect. Quantities supplied by Messrs. Linsdell & Gifford:—

W. & H. Nottle	£10,011	0	0
Macey & Sons	9,311	0	0
Saley & Son	9,170	0	0
Hooker	8,933	0	0
Bangs	8,620	0	0
Syme & Duncan	8,535	0	0
Cox	8,490	0	0
Jarrett	8,415	0	0
Eanor	8,365	0	0
Newman & Mann	8,341	0	0
Cooper	8,268	10	0
Masters	8,159	0	0
Jerrard	8,089	0	0
Prout	7,995	0	0
Joscelyne	7,985	0	0
Burrows	7,505	0	0
Oxford	7,394	0	0

For finishing villa residence, Oakleigh Park, for the Whetstone Land Company. Mr. S. Tucker, architect. Quantities by Mr. T. J. Fife:—

Wheeler	£950	0	0
Axford	921	0	0
Smith	847	0	0
Barber (accepted)	810	0	0

For fitting up the Old Manor House, Mare-street, Hackney:—

Thomerson (accepted).

For erection of a warehouse, High Cross-street, Leicester, for Mr. Thomas Almond. Mr. William B. Tomlinson, architect:—

Burdett (accepted)	£2,380	0	0

For erection of Congregational Church Sunday-school, class-rooms, boundary-walls, &c., Avenue-road, Whittington Moor, Derbyshire. Mr. Parker, architect:—

Stevenson	£1,481	10	0
Fidler	1,435	0	0
Cropper	1,370	0	0
Forrest	1,343	10	0
Crowcroft, Naylor, & Co.	1,343	12	8
Clubley & Stringfellow	1,342	0	0
Price	1,318	0	0
Kirkby	1,310	0	0
Toplis & Dalley	1,266	7	7
Wheeler & Boyce	1,151	0	0
Rose & Co.	1,129	0	0
Dew	1,089	0	0
Bradbury (accepted)	1,080	0	0

For building residence, &c., at Uxbridge, for Mr. A. D. Woolls. Mr. Chas. Godbolt, architect. Quantities supplied:—

Taylor	£3,755	0	0
Green	4,4 0	0	0
Kerby	4,300	0	0
Johnson	4,200	0	0
Brown	3,676	0	0
Gipson	3,580	0	0
Cave	3,475	0	0
Groom	3,200	0	0
Rose, Lloyd, & Co.	3,000	0	0
Cox & Son (accepted)	2,935	0	0

For the erection of new rectory-house, St. Mary's, Chatham. Mr. G. M. Hills, architect:—

Cobham	£3,013	0	0
Nisbett	2,983	0	0
Bayes & Co.	2,88	0	0
Walters & Clements	2,650	0	0
Callund	2,429	0	0
Gates	2,393	0	0
Naylar (accepted)	2,345	0	0
Wilkins & Son	1,767	0	0

For painting, &c., and repairs, at the Surrey Dispensary, Great Dover-street:—

Rider & Sons	£515	0	0
Tarrant & Son	513	0	0
Sayer	495	0	0
Maraland	464	0	0
Pack	445	0	0
Joscelyne (accepted)	350	0	0

For the erection of new villa residence at St. Margaret's, Rochester, for Mr. Geo. Wattson:—

Naylar (accepted)	£1,530	0	0

For painting, &c., and repairs, at the Asylum for Deaf and Dumb, Old Kent-road. Mr. C. A. Gould, architect:—

Maraland	£543	0	0
W. & F. Croaker	527	0	0
Moy (accepted)	396	0	0
Horner	380	0	0

For alterations and additions to shops, &c., Beuhill-street, Sutton, Surrey, for Mr. A. Dyer. Mr. A. Stanton Cook, architect. Quantities supplied:—

Stewart	£620	0	0
Tripe	517	0	0

For the erection of Infectious and Contagious Diseases Hospital, at Plaistow, Essex, for the Board of Works for the Poplar District. Quantities by Mr. Thos. Nixon:—

		Additional Story to B Block.
Sewell & Son	£13,050	£1,095
Perry & Co.	12,950	1,700
Bangs & Co.	12,871	1,617
Harris & Wardrop	12,790	1,904
Watts	12,683	1,630
Abrahams	12,443	1,588
Coleman	12,133	1,634
Johnson	11,995	1,650
Killby	11,485	1,483
Atherton & Latta	11,444	1,480
Wood Bros.	11,380	1,627
Lunn	11,200	1,500
Martin	10,948	1,600

For the erection of six new shops, at Old Charlton, for Sir Spencer Wilson, bart. Mr. E. M. Forster, architect. Quantities by Mr. S. Tucker:—

Kent	£8,295	0	0
Gerrard	7,973	0	0
Tongue	7,937	0	0
Kirk & Randall	7,684	0	0
Messum	7,589	0	0
Wells	7,310	0	0
Burman	7,200	0	0
Cook	7,171	0	0
Barber	7,150	0	0

For malting, &c., at Wandsworth Bridge-road, for Mr. Thomas Whittaker. Mr. F. Fred. Holsworth, architect. Quantities by Mr. A. J. Gate:—

Brass	£9,400	0	0
Colls & Son	9,287	0	0
Lawrence	8,492	0	0
Perry & Co.	8,025	0	0
Avins & Co.	7,980	0	0
Downs & Co.	7,900	0	0
Hill, Higgs, & Hill	7,860	0	0
Patrick	7,274	0	0

For alterations and additions to the Eagle Tavern, Ladbroke-grove-road, Notting-hill, for Mr. Henry Stevens. Mr. George Stooke, architect:—

Hopton	£613	0	0
Howe	578	0	0
Handover	575	0	0
Nickels	535	0	0
Sanders (accepted)	528	10	0

For the erection of two new houses and shops, Stratford, for Mr. Halford. Mr. Henry Ough, architect. Quantities not supplied:—

Reed	£999	0	0
Clogg	977	0	0
Palmer	935	0	0
Nichols	897	0	0

For the erection of new school buildings, Sheerness, for the Minster-in-Sheppey U. D. School Board. Mr. E. H. Lingen-Barker, architect:—

Hall	£2,987	0	0
Gibson	2,947	0	0
Geere	2,880	0	0
Naylar (accepted)	2,873	0	0
Prout	2,859	0	0
Smeaton & Son	2,553	0	0

For re-seating and general restoration of Hernhill Church, near Faversham, Kent. Messrs. Newman & Billing, architects:—

Naylar (accepted)	£1,145	0	0

For painting and repairs to residence, 6, Leinster-gardens. Messrs. Winstanley & Horwood, architects:—

Larke	£366	0	0
Lawrence	370	0	0
Pitman & Cuthbertson (accepted)	350	0	0

For building a granary at Darfield Wharf, Lambeth. Messrs. Whitmore & Kennard, architect:—

	If Iron Joists, &c.	If Wood.
F. & F. J. Wood	£4,465	£4,083
Lathey Bros.	4,300	4,250
Cooke	4,129	4,079
Martin	4,100	3,850
Hobson	3,996	3,931
Tarrile & Appleton	3,840	3,840
Bangs & Co.	3,795	3,850
Rider & Son	3,780	3,729

For new premises, Nos. 137 and 138, Oxford-street, for the executors of the late Mr. Thomas Brandon. Messrs. John Giles & Gough, architects. Quantities by Mr. C. H. Goode:—

Kirk & Randall	£8,505	0	0
Bayes & Allen	8,430	0	0
Colls & Sons	8,346	0	0
Thorn	8,210	0	0

For warehouse, at Hugg-street, Limehouse, for Mr. A. McAlister. Messrs. A. & C. Harston, architects:—

Johnson (accepted)	£849	0	0

For concrete foundations for Royal Savoy Chambers, Strand:—

Keeble	£936	0	0
Sheffield	789	0	0
Green (accepted)	655	0	0

Longhedge Engine-sheds, Battersea.—Mr. C. Dickinson has commenced the contract for new running sheds and workshops, covering an area of two acres, for the London, Chatham, and Dover Railway Company, at Stewart's-lane, Battersea.

Restoring Warehouses for Messrs. Jones Bros.—In your list of tenders for this work last week, 760*l.* appears against our name in lieu of 670*l.*, the actual amount, which was accepted.—F. Blandford & Co.

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We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c. must be accompanied by the name and address of the sender, not necessarily for publication.

News.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

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